COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
www.ladpw.org

DONALD L. WOLFE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: PJ-2

March 30, 2006

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

HARBOR-UCLA MEDICAL CENTER
SURGERY/EMERGENCY REPLACEMENT PROJECT
APPROVE MITIGATED NEGATIVE DECLARATION
ADOPT MITIGATION MONITORING AND REPORTING PROGRAM
SPECS. 5110, 6779; C.P. 69220
SUPERVISORIAL DISTRICT 2
3 VOTES

JOINT RECOMMENDATION WITH THE CHIEF ADMINISTRATIVE OFFICER THAT YOUR BOARD:

1. Consider the enclosed Mitigated Negative Declaration for the Harbor-UCLA Medical Center Surgery/Emergency Replacement project together with the comments received during the public review process, and find the project will not have a significant effect on the environment and the Mitigated Negative Declaration reflects the independent judgment of the County.

2. Adopt the Mitigation Monitoring and Reporting Program (Section III of the enclosed Mitigated Negative Declaration) to ensure compliance with the project conditions as contained in the Mitigated Negative Declaration and to mitigate or avoid environmental effects.

3. Find that the project will have no adverse effect on wildlife resources, and authorize the Director of Public Works to file a Certificate of Fee Exemption for the project.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of the recommended actions will allow Public Works to proceed to obtain design approval of the Harbor-UCLA Medical Center Surgery/Emergency Replacement project. Your Board previously approved the design, construction management, and document control services for a 190,300-square-foot hospital addition containing new surgery and emergency facilities at Harbor-UCLA Medical Center. It is now recommended that your Board approve the Mitigated Negative Declaration. Upon your approval, the recommended measures to mitigate the environmental impacts will be incorporated into the construction documents and submitted to State jurisdictional agencies for final design approvals.

Two State agencies are involved in the review and permitting of the project's plans, the Office of Statewide Health Planning and Development and the Department of Transportation. Plan approval by these agencies requires that all local jurisdictional plan approvals and California Environmental Quality Act (CEQA) documentation be completed, including filing of the Notice of Determination. Thus, prior to completing bid packages and submitting them for your Board's approval to adopt and advertise, we must first obtain your Board's approval of the Mitigated Negative Declaration and file the Notice of Determination and Certificate of Fee Exemption in order to satisfy the State's final plan review requirements.

Implementation of Strategic Plan Goals

These actions meet the County Strategic Plan Goals of Service Excellence, Fiscal Responsibility, and Children and Families' Well-Being by investing in public health infrastructure and improving access to surgery and emergency services in the southern and western segments of the County. Completion of this project will provide a much needed improvement to a health care facility for the residents of the County.

FISCAL IMPACT/FINANCING

These recommendations, if approved by your Board, will have no fiscal or financial impact.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

The enclosed Mitigated Negative Declaration was prepared in compliance with CEQA and addresses all phases of the project, including the initial Make-Ready projects, the new Surgery/Emergency Replacement, and the Remodel of Existing Surgery/ Emergency Departments.

ENVIRONMENTAL DOCUMENTATION

As required by CEQA, a draft Mitigated Negative Declaration was prepared for this project and circulated for agency and public review from June 20, 2005, through July 27, 2005, for a period in excess of 30 days. During the public review period, two written responses were received from the public. Comments received during the review period, responses to the comments, and the clarifications and revisions are contained in the enclosed final Mitigated Negative Declaration.

The proposed Mitigation Monitoring and Reporting Program (Section III of the enclosed Mitigated Negative Declaration) was also prepared to ensure compliance with the environmental mitigation measures included as part of the final Mitigated Negative Declaration relative to biological resources, cultural resources, and noise. The recommended measures to mitigate the environmental impacts will be incorporated into the construction bid documents. Based on the final Mitigated Negative Declaration, comments, clarifications, and revisions received, it was determined the project will not have a significant effect on the environment.

A fee must be paid to the State Department of Fish and Game when certain notices required by CEQA are filed with the Registrar-Recorder/County Clerk. The County is exempt from paying this fee if your Board finds that a project will have no impact on wildlife resources. The initial study of environmental factors concludes that there will be no adverse effects on wildlife resources. Therefore, it is recommended that your Board find the project will have no adverse effect on wildlife resources, and authorize Public Works to file a Certificate of Fee Exemption for the project.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

Approving the recommended actions will have no impact on current County services or other projects. During the completion of design, extensive coordination will be performed to identify and implement measures to mitigate potential construction conflicts and minimize impacts on hospital operations and patient care.

CONCLUSION

Please return an adopted copy of this letter to the Chief Administrative Office (Capital Projects Division) and Public Works.

Respectfully submitted,

for DONALD L. WOLFE
Director of Public Works

DAVID E. JANSSEN
Chief Administrative Officer

VA:js
U:\pmdl\health\H-UCLA\MC\S-ERA\Board Letters\BL-H-UCLA Draft MND 4-6-06.doc

Enc.

cc: County Counsel

FINAL

MITIGATED NEGATIVE DECLARATION

for the

Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement

Prepared for:

County of Los Angeles
Department of Public Works
Contact: Ryan Wantz
(626) 300-2352

Prepared by:

Sigma Engineering, Inc.
Contact: Bijan Saless
(805) 983-6262

February 24, 2006

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COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

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ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: PJ-1

June 23, 2005

To All Interested Agencies, Groups, and Persons:

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION
HARBOR–UCLA MEDICAL CENTER
SURGERY/EMERGENCY REPLACEMENT PROJECT
C.P. 69220; SPEC. 5110

INTRODUCTION: The Los Angeles County Department of Public Works (LACDPW), as Lead Agency for the proposed Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement, has prepared an Initial Study complying with the California Environmental Quality Act (CEQA) of 1970 as amended, and intends to adopt a Mitigated Negative Declaration based on a finding that the proposed project will not have a significant adverse impact on the environment with implementation of the proposed mitigation measures.

PROJECT LOCATION: The proposed Surgery/Emergency Replacement project is to be located at Harbor-UCLA Medical Center at 1000 West Carson Street in the unincorporated area of the County of Los Angeles near the cities of Carson, Torrance, and Los Angeles.

PROJECT DESCRIPTION: The project entails the expansion of the Harbor-UCLA Medical Center through the construction of a new Surgery/Emergency Building addition to the southwest side of the existing hospital. The expansion would consist of a two story building, basement, mechanical penthouse, and elevator tower that total 190,300 square feet. The existing emergency and surgery departments of the hospital would be relocated into the aforementioned expansion building. This vacated space will be remodeled and used to consolidate and expand other departments. As part of the construction, four modular buildings will be demolished, one modular building will be relocated, and two new modular facilities will be installed. The existing ground-level helistop, which has been in use for over 22 years, would be moved approximately 45 feet northeast and elevated to 14 feet above grade level. An interim/temporary helistop would be constructed, elevated to 10 feet above grade level, and located on the southwest portion of the medical campus. The project site is not present on any lists enumerated under Section 65962.5 of the Government Code, including, but not limited to lists of hazardous waste facilities, land designated as hazardous property, and hazardous waste disposal sites.

PUBLIC REVIEW: Copies of the Proposed MND are available for review at the Carson Library, 151 East Carson Street, Carson, California 90745 and at the County's address below. The County will receive written comments on the Proposed MND during the public review which begins June 27, 2005 and ends on July 27, 2005. Please provide comments on the Proposed MND to Mr. Ryan Wantz at the address below by July 27, 2005.

Ryan Wantz
County of Los Angeles Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803-1331
(626) 300-2352

The County Board of Supervisors will consider the proposed project at a regularly scheduled future meeting at the Board of Supervisors hearing room at 500 West Temple Street, Third Floor, Los Angeles, California (notification of meeting date will be forthcoming).

Very truly yours,

DONALD L. WOLFE
Acting Director of Public Works

Ryan Wantz

RYAN G. WANTZ
Project Manager
Project Management Division I

RGW:jgs
U:\health\H-UCLA\MC\S-ERA\NI-MND-062305

MITIGATED NEGATIVE DECLARATION

for the

Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement

Prepared for:

County of Los Angeles
Department of Public Works
Contact: Ryan Wantz
(626) 300-2352

Prepared by:

Sigma Engineering, Inc.
Contact: Bijan Saless
(805) 983-6262

June 16, 2005

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I. PROJECT INFORMATION

Applicant: **County of Los Angeles** **Date** **June 16, 2005**

I. PROJECT INFORMATION

1. Project title:

Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement

2. Lead agency name and address:

County of Los Angeles
Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803-1331

3. Contact person and phone number:

Ryan Wantz
(626) 300-2352

4. Project location:

The project site encompasses approximately 17 acres of which approximately 16.5 acres are located in the eastern portion of the existing Harbor-UCLA Medical Center campus. Approximately 0.5 acre of the project site is located in the southwest portion of the campus. The entire campus encompasses approximately 72 acres of unincorporated land in southern Los Angeles County, between the cities of Torrance, Los Angeles, and Carson. Occupying a large rectangular block, the campus is roughly a half-mile by a quarter mile in size (see Exhibits 1 and 2).

The Harbor Freeway (I-110) lies just east of the campus, and the San Diego freeway (I-405) is located approximately 2 miles to the north. Four streets form the boundaries of the Harbor-UCLA Medical Center: Carson Street on the north, Vermont Avenue on the east, 220th Street on the south, and Normandie Avenue on the west.

The Medical Center's service area encompasses 300 square miles of southwestern Los Angeles County and over 2 million residents. The Medical Center consists of a teaching hospital, associated outpatient clinics, and research facilities. It has affiliations with the UCLA School of Medicine and the School of Dentistry, and with local colleges for registered nurses (RNs), licensed vocational nurses (LVNs), and allied health professional training.

5. **Project sponsor's name and address:**

County of Los Angeles
Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803-1331

6. **Custodian of the administrative record for this project (if different from response to item 3 above.):**

Same as item 3 above.

7. **Identification of previous environmental documents relied upon for analysis purposes:**

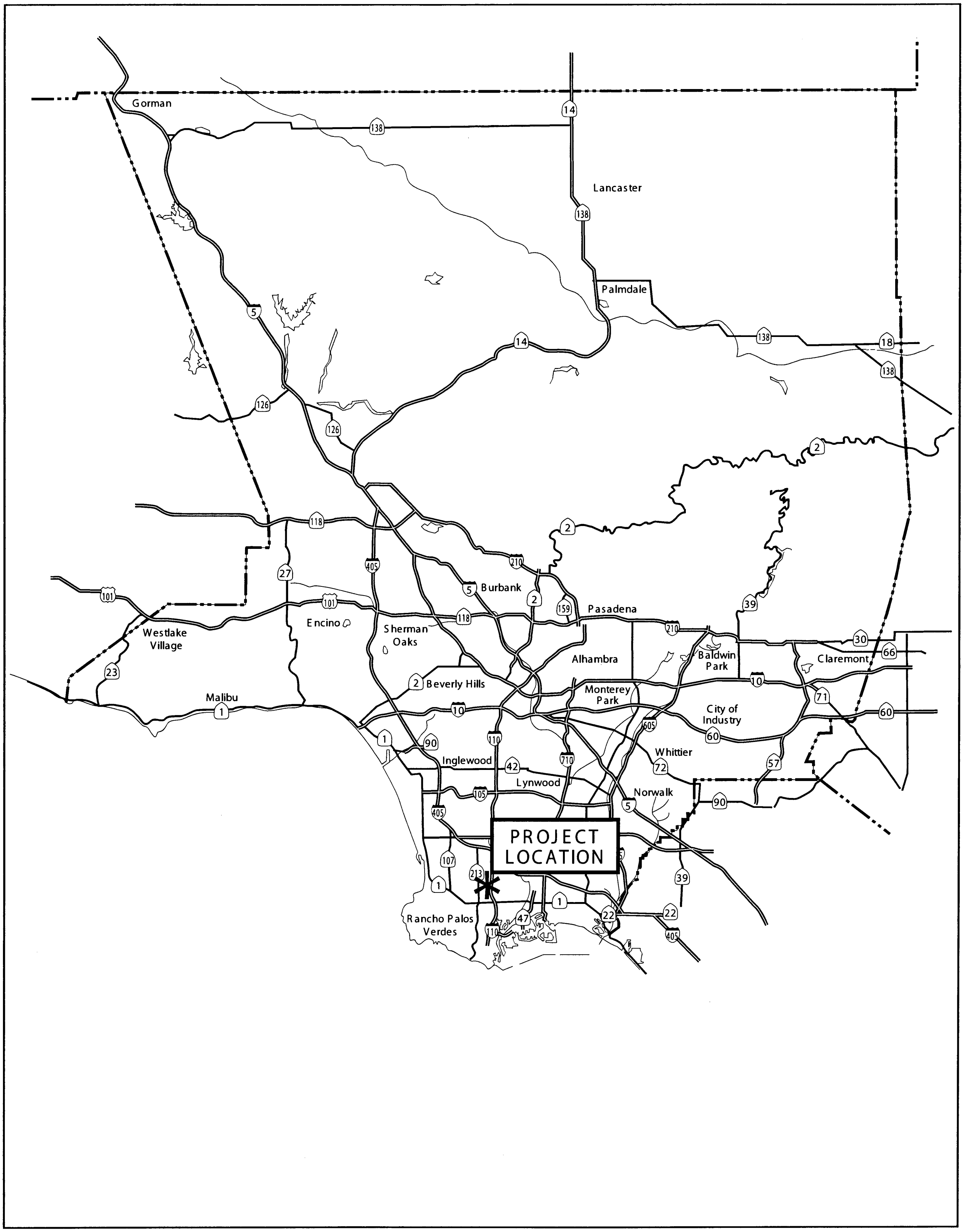
Draft Mitigated Negative Declaration: Harbor-UCLA Medical Center Ambulatory Care/ Surgery/ Emergency Addition, 1995 (not certified).

8. **Description of project:**

Physical And Operational Characteristics

The proposed project is a part of the implementation of the Harbor-UCLA Medical Center Master Plan prepared in 1985. The master plan seeks to optimize the efficiency and capability of the Medical Center through better organization and separation of inpatient and outpatient services, major space additions, and reallocation of existing space. Accordingly, the County of Los Angeles is proposing to expand the Harbor-UCLA Medical Center by constructing a new Surgery/Emergency Building addition to the southwest side of the existing hospital (see Exhibit 3). The expansion would consist of a two story building, basement, mechanical penthouse, and elevator tower that total 190,300 square feet. The main building has a maximum height of 34-feet, 3-inches (see Exhibit 4). A portion of this new building will extend into an existing 15-foot wide north-south Los Angeles County Flood Control District easement that contains a rectangular (8 ft. wide by 4 ft. high) storm drain. The portion of the building that will extend into the easement will consist of one story that will include visitor waiting rooms.

The existing emergency and surgery departments of the hospital would be relocated into the aforementioned expansion building. The new Emergency and Surgery Building would include: the operating suite with 15 operating rooms, post-anesthesia recovery areas, outpatient surgery preparation and recovery areas on the second level, Emergency Department services for adults and pediatrics on the first level, as well as the relocation of the existing Central Sterile Processing Department, which is a key support department for Surgery and Emergency. Consequently, approximately 45,600 square feet of space within the existing hospital would be vacated by the relocation of the Surgery, Emergency, and Central Sterile Processing departments. Thereafter, this vacated space will be remodeled and used to consolidate and expand other departments, which would include portions of cardiology/cardiac rehabilitation, echocardiology/electrocardiography, intravenous administration/chemotherapy, laboratory blood bank, neurodiagnostic/EEG and radiology.



Michael Brandman Associates

NORTH

Exhibit 1

Regional Location Map

23380001 • 3/2002

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

SOURCE: The Thomas Guide, Los Angeles and Orange Counties, 2002.

NORTH

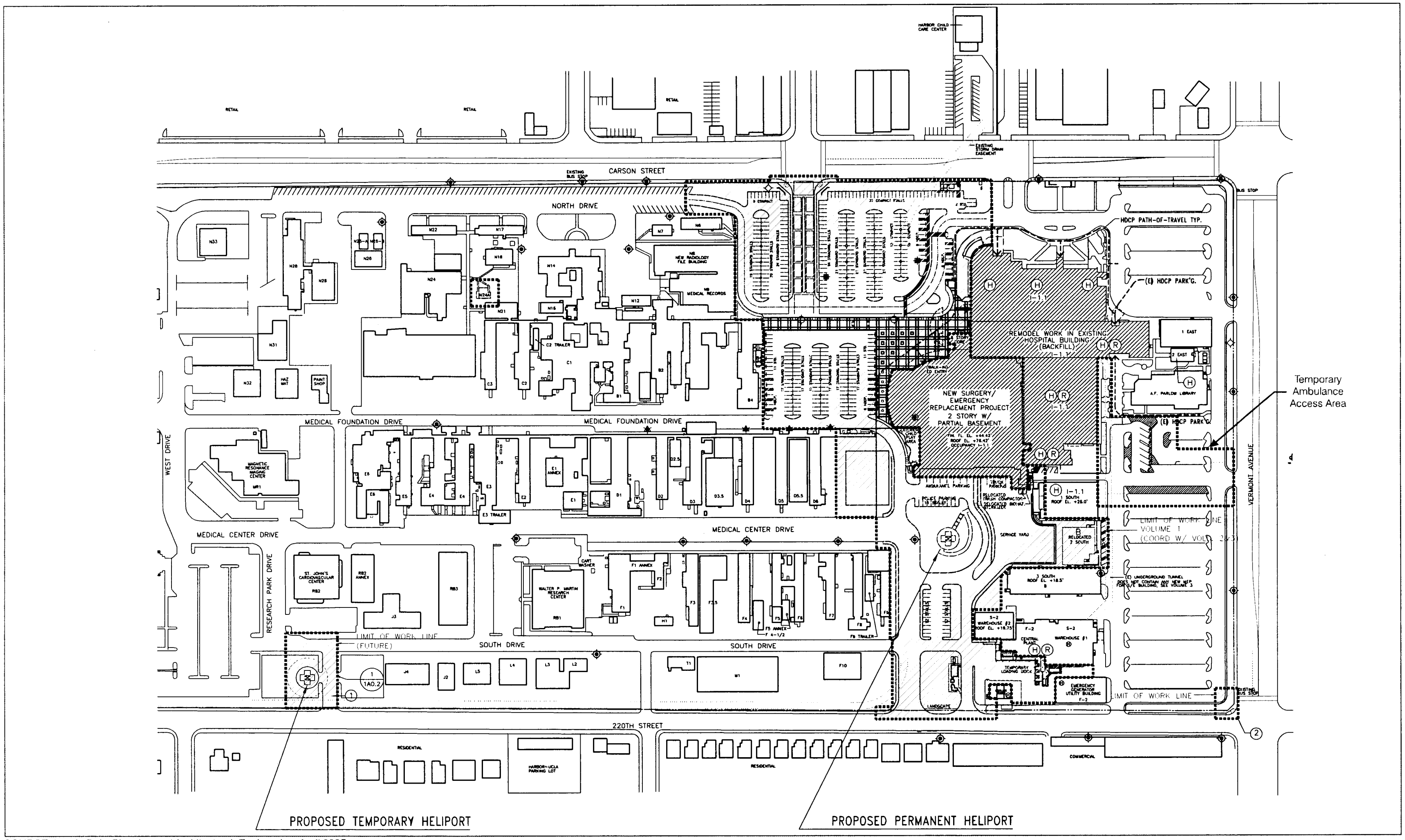
1740 870 0 1740
SCALE IN FEET

Exhibit **2**

Local Vicinity Map

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

23380001 • 2/2002



SOURCE: Leo A. Daly, Planning and Architectural Engineering, April 2005.

NORTH

NOT TO SCALE

Legend

••••• Project Site

Exhibit 3
Site Plan

2338RS02 • 06/2005 | 3_siteplan.cdr

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

A new elevator tower is proposed to improve circulation within the facility by providing a direct connection between the new building and existing hospital tower. This new tower would be attached to the west end of the existing 133-foot nine-story tower adjacent to the hospital and would have a maximum height of 131 feet, 6 inches (see Exhibits 4, 5, and 6).

With the expansion, the emergency and surgery departments will be able to accommodate the patient visits that are projected for these departments (Hamilton Klow Associates, 2001). The projections that are provided in Table 1 are for the years 2005, 2010, and 2020. The baseline conditions that were included in the Hamilton Klow Associates evaluation were actual patient loads for the year 1998/1999. Table 1 also includes actual patient loads for the year 2003/2004, and these loads were provided by Harbor-UCLA staff. As shown in Table 1, the actual total patient loads for 2003/2004 for the Emergency Department (87,128) and Surgery Department Daily Procedures (8,649) are less than those projected for the year 2005 (95,545 and 9,014, respectively) by Hamilton Klow Associates. Therefore, the projections provided by Hamilton Klow Associates remain valid.

The emergency department's daily visits were 86,280 in the year 1998/99 and these visits are projected to increase to 16 percent over 1998/99 visits in the year 2010 and by 28 percent over 1998/99 visits in the year 2020. In the year 1998/99, the surgery department's daily visits were 6,000 for inpatients and 2,470 for outpatient, and these visits are projected to increase by 12 percent in the year 2010 and by 24 percent in the year 2020 for each of the inpatient and outpatient visits (see Table 1).

TABLE 1
ESTIMATED PATIENT LOADS[a]

	Actual	Actual	Projected					
	1998/99	2003/04[a]	2005		2010		2020	
	Volume	Volume	Volume	% Change Over 1998/99	Volume	% Change Over 1998/99	Volume	% Change Over 1998/99
Emergency Department								
Daily Visits	86,280	87,128	95,545	11	100,419	16	110,791	28
Surgery Department Daily Procedures								
Inpatient	6,000	6,395	6,371	6	6,696	12	7,397	24
Outpatient	2,470	2,254	2,643	7	2,778	12	3,069	24
Total	8,470	8,649	9,014	6	9,474	12	10,466	24

[a] Based on the actual 2003/04 total patient loads from Harbor UCLA staff for the Emergency Department and Surgery Department Daily Procedures, the total patient load projections provided by Hamilton Klow Associates in 2001 remain valid.
Source: Hamilton Klow Associates, Needs Validation Study (December 2001).

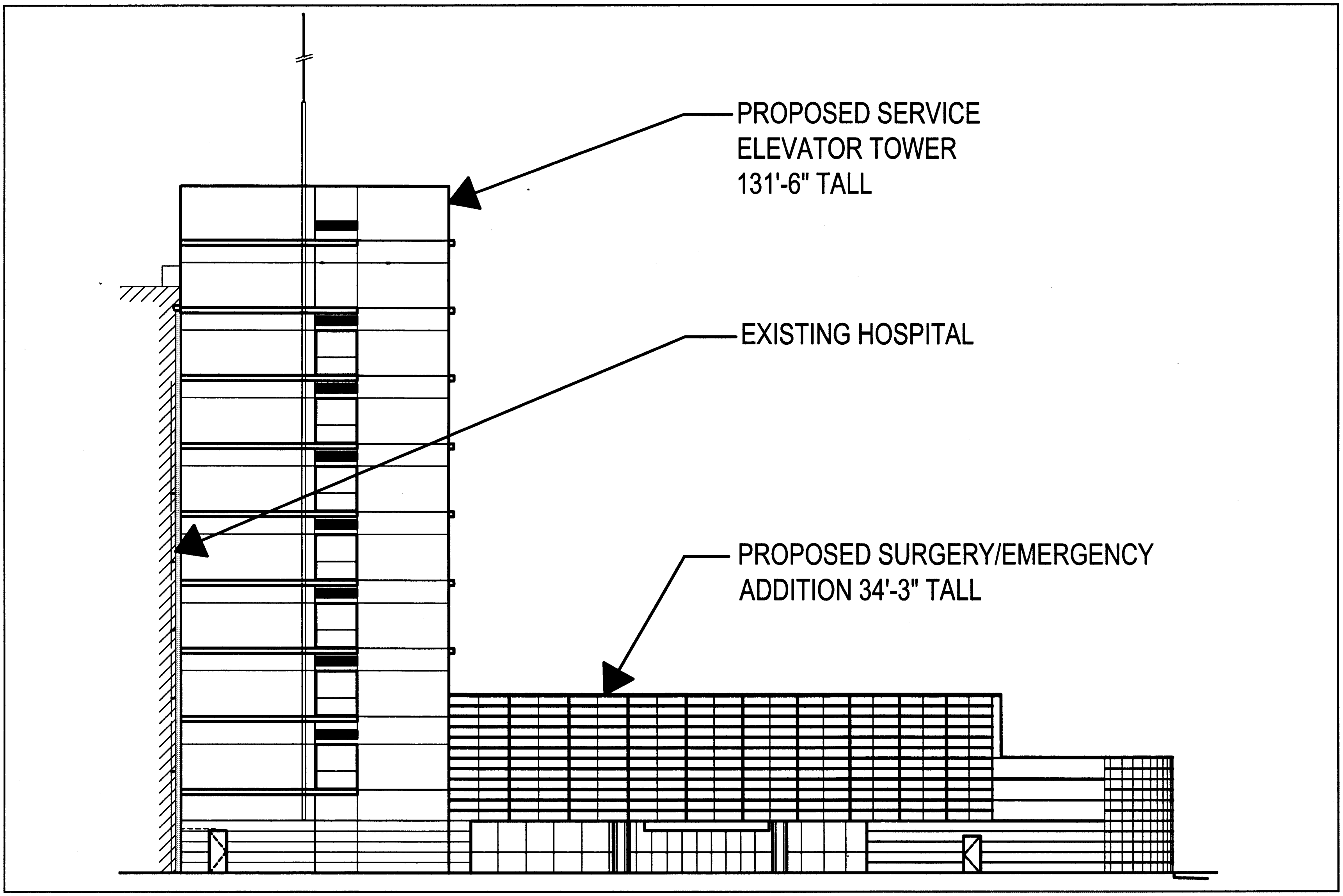
As part of construction, four modular buildings (D-7, D-8, D-9, and N-1) will be demolished, one modular building (2 South) will be relocated, and two new modular facilities will be installed. Buildings D-7 (3,028 sq. ft.) and D-8 (3,028 sq. ft.) are currently used as storage facilities and will be demolished to make space for a new 11,000 square feet (sq. ft.) modular facility. Building D-9 (2,880 sq. ft.) contains the emergency medicine department and will be demolished to make space for the construction of the new surgery/emergency building and new Central Drive. The emergency medicine department will be relocated into the new modular facility. This new facility will also include trauma services being relocated from the hospital basement, various offices being relocated from building N-1, and provide for swing space during construction. Building N-1 is a single-story building of approximately 5,000 sq. ft. located in the northwest corner of the parking lot west of the hospital. Building N-1 contains speech pathology and audiology functions, and will be demolished to provide space for a new parking area. The audiology functions from building N-1 will be relocated into a new 1,200-square foot modular facility to be located to the east of building N-24.

Building 2-South contains the outpatient psychiatry department and will be relocated to provide space for construction of the new surgery/emergency building.

The primary focus of the proposed project is to optimize operational efficiency. Therefore, implementation of the proposed project would allow the Harbor-UCLA Medical Center to operate more efficiently by improving workflow, but would result in only minimal increases in staff. Accordingly, it is expected that the positions, if any, would be filled by the local labor force and would not result in the generation of new residents in the area. The expanded and optimized facilities would increase the medical center's ability to perform more patient procedures, and therefore it is anticipated that the emergency and surgery department would have capacity to handle patient projection into the year 2020. The proposed expansion, however, would not change the number of licensed beds at the hospital, which will remain at 553.

Helistop

As part of the project, the Medical Center's existing ground-level helistop, which has been in use for over 22 years, would be moved approximately 45 feet northeast and elevated to 14 feet above grade level. An interim/temporary helistop would be constructed, elevated to 10 feet above grade level, and located on the southwest portion of medical campus, approximately 550 feet from the northeast corner of the intersection of Normandie Drive and 220th Street. The proposed permanent and temporary helistop locations are depicted in Exhibit 3. Relocating the permanent helistop would improve obstruction clearance, thereby enhancing operational safety. This change would not affect existing flight paths. The permanent helistop would consist of a steel structure with a landing pad elevation of 14 ft. above grade, allowing for other functional uses of the space under the permanent helistop in the future. The raised helistop would be painted with standard hospital helistop markings, to positively identify its location, function, and approach paths for incoming pilots. Yellow flush-mounted perimeter lights would outline the pad at night. A lighted windcone would be provided as required for the new helistop. In addition, existing nearby power poles and light standards which are currently topped with aviation red obstruction lights to mark their location for pilots would remain in place.



Source: Leo A. Daily Planning and Architectural Engineering, 06/2005.

NORTH

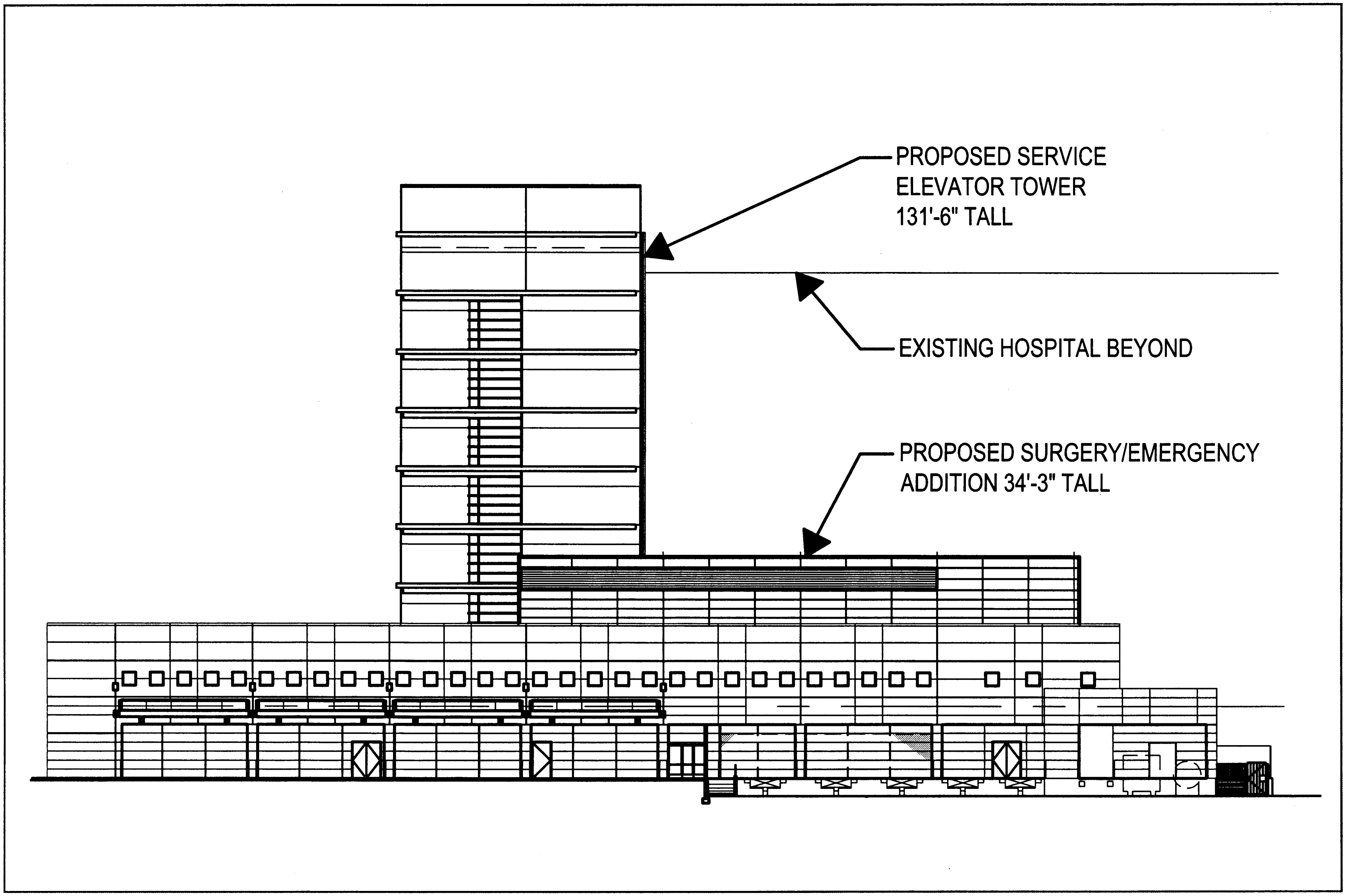
NOT TO SCALE

Michael Brandman Associates

2338RS01 • 06/2005 | 4_north_elevation.cdr

Exhibit 4
North Elevation

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT



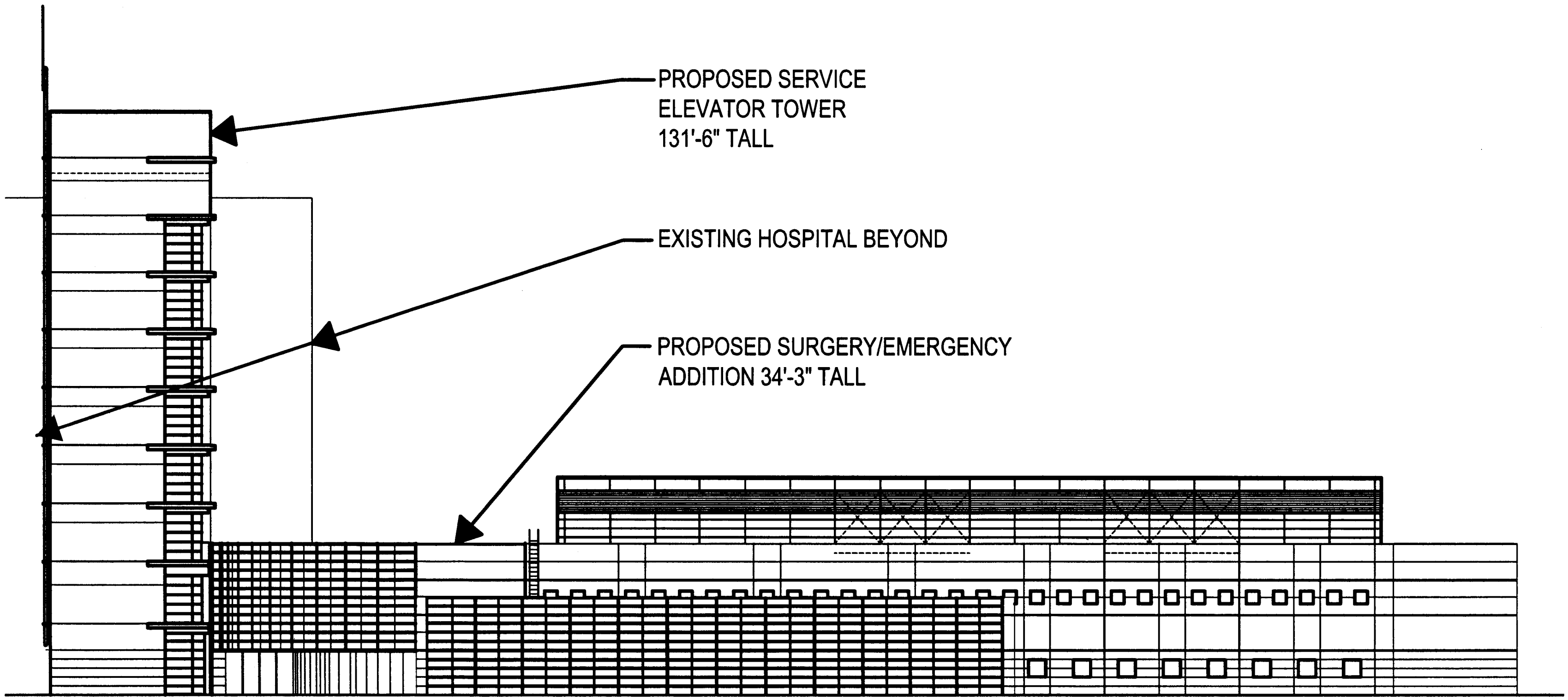
Source: Leo A. Daily Planning and Architectural Engineering, 06/2005.

NORTH

NOT TO SCALE

Michael Brandman Associates

Exhibit 5
South Elevation



Source: Leo A. Daily Planning and Architectural Engineering, 06/2005.

NOT TO SCALE

Michael Brandman Associates

2338RS01 • 06/2005 | 6_west_elevation.cdr

Exhibit 6
West Elevation

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

The existing helistop currently averages about 120 landings annually, and the proposed project is not expected to affect the number of helicopter operations. As with the existing helistop, the new facility would be equipped with lights to accommodate nighttime landing when needed. Like fixed-wing aircraft, helicopters exhibit better climb performance and overall safer operations when landing and taking off into the wind. Approach and departure paths have been designed to capitalize on prevailing wind directions as well as to provide obstruction clearance per federal and state standards. The primary approach at the proposed permanent site is from the east, and the primary departure is toward the south. Flight direction can be reversed to optimize operational safety when needed to accommodate specific wind conditions, in effect providing two approach and two departure paths.

Part 157 of the Federal Aviation Regulations requires that the Federal Aviation Administration (FAA) be notified whenever a project proponent intends to alter an aircraft landing or takeoff area in any way. The minor relocation of the permanent helistop would require this notification. Part 157 also requires that the FAA be notified whenever use of a takeoff or landing area would be discontinued for 1 year or more. The existing helistop would be unusable for approximately 2 to 3 years during construction of the improvements to the helistop as well as construction of the new Surgery/Emergency facility. During that time, helicopter transport of patients would be accommodated at the proposed temporary helistop near the campus' southwest corner. The temporary helistop will be designed as a demountable structure that may be disassembled and removed after the helicopter operations in the interim terminates and operations shift to the permanent helistop. Obtaining a conditional use permit from the Los Angeles County Department of Regional Planning and approval from the Airport Land Use Commission for the new permanent helistop and temporary helistop will be required.

Circulation and Parking

The proposed project includes a reconfiguration of the onsite parking lot and the relocation of the main public entrance on Carson Street. The existing main entrance is signalized and located approximately 450 feet west of the Carson Street/Vermont Avenue intersection. This entrance is aligned with a driveway that provides access to a multi-family residential complex on the north side of Carson Street.

The proposed driveway location is approximately 900 feet west of the Carson Street/Vermont Avenue intersection. The existing driveway would remain and the traffic signal will be modified or removed, if necessary, in accordance with County Traffic and Lighting requirements. The new Medical Center entrance includes a westbound left-turn lane in the median of Carson Street approximately 250 feet long and an eastbound right-turn lane on the south side of Carson Street that is approximately 150 feet long.

The reconfiguration of the parking lot would result in providing the main public access and parking lot at the front of the Medical Center on Carson Street. It would also separate the public entrance and patron parking lot from the employee parking lot and the ambulance entrance, which are located on the east and south sides of the center, respectively. Currently, there are 3,324 onsite parking spaces at the Medical Center, which includes 3,217 spaces on the main campus, 21 spaces at the Child Care Center at 975 Carson Street, and 86 spaces in the LABioMed, Inc. lot on the south side of 220th Street.

During phasing of the construction activities, parking areas will be temporarily unavailable for parking. In addition, approximately 100 parking spaces on the southeast side of the existing hospital will be unavailable for parking because this area will be used as the temporary ambulance access area until the construction activities are completed. The County intends to retain at least 2,693 parking spaces, which is required by County Code, for staff, patients, and visitors during construction activities.

After the project is completed, an estimated total of about 1,137 existing parking spaces would be displaced by the project while approximately 589 new spaces would be provided in new parking lots, resulting in a net reduction of about 548 on-campus parking spaces. Thus, the estimated future total of parking spaces campus-wide is approximately 2,776 spaces. Although there is a reduction in parking spaces campus-wide, the resultant number of spaces still exceeds the County Parking Code requirements.

Funding

The costs associated with the proposed project will be funded through the issuance of long term tax-exempt bonds. A key component of the funding for the proposed project is the intended use of Senate Bill 1732 payback funds available through the State of California.

It is anticipated that the Department will be able to fund debt service payments for this proposed project within the level of resources currently available in its 2004-05 budget.

9. Project Objectives:

The objectives of the proposed project as set forth by the County of Los Angeles include:

- The provision of accessible acute care medical services to persons living in the southwestern Los Angeles County.

- The fulfillment of the goals of the Harbor-UCLA Master Plan to pursue an aggressive upgrade and enhancement of medical facilities at the Harbor-UCLA Medical Center in order to maintain a sound physical plant; to improve efficiency of operations; to maximize the utilization of buildings and land resources; and to provide adequate facilities to support an expanded effort to market specialized health care services.

- The pursuit of mechanisms whereby revenue streams might be created to support the continued modernization and/or expansion of the facilities.

- The alleviation of major space inadequacies within selected ancillary departments, including Surgery and Emergency.

The provision of efficient and adequate space for these departments would allow the Medical Center to accommodate an increasing outpatient volume. The space improvements should also allow these departments to operate more efficiently by improving workflow and optimizing operation efficiency.

The replacement of space for the Surgery and Emergency departments is of highest priority to the Medical Center. Providing new space for Surgery would allow co-location of the Outpatient Surgery Staging Area with Surgery, improve workflow within the department compared to the existing environment, and promote enhanced sterile technique.

Replacement and expansion of the Emergency Department would provide not only improved operational efficiency in handling the various types of emergency patients but would also facilitate more appropriate triage into the Urgent Care Clinic. Design should result in substantially improved management of both scheduled and unscheduled outpatients visiting the Medical Center.

10. Surrounding land uses and environmental setting: Briefly describe the project's surroundings:

Within the existing medical campus, the project site is located adjacent to existing medical-related services and research/administrative functions. The land uses surrounding the medical campus include single-family residences, light industrial uses, and retail uses. The heights of the buildings surrounding the campus are primarily one and two stories.

11. Discretionary approval authority and other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

The County of Los Angeles, Department of Public Works LACDPW is the lead agency for the project and is responsible for processing the environmental documentation. This MND is the CEQA documentation LACDPW is processing for the entire project; the Department of Regional Planning will use the MND for a conditional use permit for the proposed permanent and temporary helistop. The Planning Commission will take action on the Conditional Use Permit (CUP). LACDPW will submit the project to the Los Angeles County Board of Supervisors, which has authority for approval of the MND and the proposed project.

The environmental document would also be used by the following agencies for the identified permits and approvals.

Federal Agencies

- Federal Aviation Administration. The temporary helistop would require an airspace determination by FAA. The determination focuses on safe and efficient use of airspace to operate to and from the site, as well as safety of persons and property on the ground.

- Prior to construction, the FAA would also make an airspace determination for the modified permanent helistop, pursuant to Part 157 of the Federal Aviation Regulations.

State Agencies

- California Division of Aeronautics. The interim helistop would require a permit from the Division of Aeronautics (division of Caltrans). The existing helistop is already licensed by the California Division of Aeronautics (Permit Number LA-OH2[H]). The division has been involved in the proposed project throughout the design process, assisting with analysis and development of the proposed design. The existing permit would be corrected with the new elevation and location following completion of the proposed improvements.

- California Regional Water Quality Control Board (CRWQCB). Since the proposed project will disturb approximately 17 acres, it is subject to the National Pollutant Discharge Elimination System (NPDES) General Permit requirements. A Notice of Intent (NOI) to discharge must be filed with the CRWQCB, along with appropriate fees based on the acreage of land disturbed and a Storm Water Pollution Prevention Plan (SWPPP).

Local Agencies

- Los Angeles County Flood Control District. Proposed construction activities involve the 15-foot easement within the project area and would require an encroachment permit from the District.

II. ENVIRONMENTAL CHECKLIST

A. SUMMARY OF ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

As indicated above, there are no environmental issues that would result in a "potentially significant impact" finding.

B. DETERMINATION

On the basis of the environmental evaluation that follows:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A TIERED ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared.

Signature Date

C. EVALUATION OF ENVIRONMENTAL IMPACTS

Response Column Heading Definitions

The next section of the Mitigated Negative Declaration (MND) contains a detailed checklist consisting of questions associated with a variety of environmental topics. The questions form the basis for assessing the environmental consequences of the proposed project and determining whether such consequences were adequately addressed based on current information, or will require further analysis. Responses for each item are noted under one of four column headings, each defined as follows.

- Potentially Significant Impact is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

- Less than Significant with Mitigation Incorporated applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact."

- Less Than Significant Impact applies where the project creates no significant impacts, only Less than Significant impacts.

- No Impact applies where a project does not create an impact in that category.

IMPACT QUESTIONS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS—Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
2. AGRICULTURE RESOURCES—				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒
3. AIR QUALITY—				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES—Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local applicable policies protecting biological resources?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?	☐	☐	☐	☒
5. CULTURAL RESOURCES—Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. GEOLOGY AND SOILS—Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
7. HAZARDS AND HAZARDOUS MATERIALS—Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
8.	**HYDROLOGY AND WATER QUALITY**—Would the project:				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☐	☒
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
9. LAND USE AND PLANNING—Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
10. MINERAL RESOURCES—Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
11. NOISE—Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. POPULATION AND HOUSING—Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
13. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☒	☐	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒
14. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
15. TRANSPORTATION/TRAFFIC—Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☒	☐
g) Conflict with applicable policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒
16. UTILITIES AND SERVICE SYSTEMS—Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
17. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

18. FISH AND GAME DETERMINATION

Based on the information above, there is no evidence that the project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends. The presumption of adverse effect set forth in 14 CCR 753.5 (d) has been rebutted by substantial evidence.

☒ Yes (Certificate of Fee Exemption)

☐ No (Pay Fee)

III. ENVIRONMENTAL EVALUATION

A. NARRATIVE DISCUSSION OF ENVIRONMENTAL ISSUES ON CHECKLIST

1. AESTHETICS—Would the project:

a) *Have a substantial adverse effect on a scenic vista?*

No Impact. The project site is located in a fully developed area on Carson Street just east of Interstate 110 (I-110), where there are no scenic vistas. The project is not visible for any major public viewing locations. The area immediately surrounding the UCLA medical campus, including the proposed project site, is highly urbanized and contains a mix of light industrial, retail, and single family residences. The proposed project will be consistent with these surrounding land uses. The existing 133-foot main hospital tower is the tallest building in the project area and is visible from I-110. In comparison, the tallest proposed structure would be the 131-foot 6-inch service elevators proposed to be constructed adjacent to the existing main tower. However, these structures would not impact a scenic vista. Therefore, project implementation would not have an adverse effect on a scenic vista.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact. Existing medical buildings, adjoining parking lots, pedestrian walkways and ornamental landscaping currently occupy the site. The project site is void of rock outcroppings, historic buildings, and is not located along or near a state scenic highway. The subject site does not contain any scenic resources, and there are no scenic resources in the immediate project vicinity. Therefore, project implementation would not damage scenic resources.

c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Less Than Significant Impact. During the short-term periods of site clearing and construction activities, the project site would be substantially altered from its present condition, by the presence of construction equipment, materials, stockpiles, vehicles and work crews. This image would contrast negatively with neighboring portions of the campus and community that are not under construction. However, in accordance with standard campus construction practices, the construction site would be partially screened by a five-to-six-foot high fence covered with a wind resistant fabric, that would also act as a barrier to fugitive dust generated on the project site or screened by plywood. Given the short-term nature of the construction program and the partial screening to be applied, construction-period aesthetic impacts would not be significant and no additional mitigation measures would be required.

The proposed project is part of the implementation of the Harbor-UCLA Medical Center Master Plan prepared in 1985, and proposes to optimize the facility's operational efficiency by relocating surgery and emergency departments into a building expansion. However, such expansion will retain the existing visual character of the site it surrounds and is designed to complement the visual character of the existing structures. The building materials and styling features are expected to be compatible with and of similar aesthetic quality to other recently constructed or designed structures within the Harbor-UCLA Medical Center.

The Harbor-UCLA Medical Center Master Plan adopted design standards and development controls, which take surrounding land uses into consideration. The master plan also requires that extensive landscaping be emphasized to create campus-like quality. The proposed buildings and remodeling associated with the project will implement these provisions of the master plan to reduce potential visual impacts to neighboring medical facilities on the campus, as well as offsite land uses. Additionally, the proposed structures will be located within the perimeter of the campus; thus, their impact on offsite uses is expected to be minimal. The height of the new facilities will be lower than the existing tower, leaving the hospital tower as the sole visual landmark on the campus.

The development factors to be considered for the proposed project relate to the "campus" nature of the Harbor-UCLA Medical Center. There are limited visual amenities and no particular site characteristics upon which to capitalize in the design of this proposed project. There is a strong need to enhance the campus orientation with the creation of green and hardscaped open spaces, pedestrian walkways, and tree-lined movement patterns. The Medical Center has begun this process on the east side of the facility. The proposed project should reinforce this effort with strong landscaping and hardscaping concepts, which will strengthen the unity of the campus and serve to define specific areas of land use.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less Than Significant With Mitigation Incorporated. The existing medical center generates light and glare at levels traditionally associated with medical facilities. The proposed medical buildings would require low-level night security lighting not significantly different than current lighting uses. The proposed temporary helistop will include a demountable structure that would include lighting on the helistop pad. Since the temporary helistop pad would be located 10 feet above the ground, lighting of the helistop could spill over to the adjacent residential uses. In addition, the permanent helistop pad would be located 14 feet above the ground and lighting of the helistop could also spill over to adjacent residential uses. To reduce the potential for lighting from the temporary and permanent helistops from spilling over to adjacent residential uses, the measure below is recommended. The building materials for the proposed facilities are not expected to include reflective glass or other reflective materials and are, therefore, not expected to generate additional daytime glare. Therefore, there would be no glare impact to surrounding land uses.

<u>Mitigation Measure</u>

The lighting on the proposed temporary and permanent helistops shall be shielded so lighting is directed away from the adjacent residential uses.

2. AGRICULTURE RESOURCES—Would the project:

a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

c) *Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?*

No Impact—a), b) and c). The project site is highly developed and located in a fully urbanized area near two major interstate freeways. Accordingly no native topsoils remain onsite for potential farming activities. The project site is void of any Prime, Unique or State-important farmland. The entire UCLA campus is designated by the State Department of Conservation, Division of Land Resources Protection as "Urban and Built-Up" or "Other Land, " neither of which are considered farmland. There is no Williamson Act contract affecting the proposed site or any adjacent site that potentially could be impacted by project implementation. Therefore, project implementation will have no effect on existing farmland nor will it involve other changes to the environment that will result in the conversion of Farmland to non-agricultural use.

3. AIR QUALITY—Would the project:

The following responses are based on information provided in the Air Quality Study prepared by Synectecology in March 2005 and located in Appendix A.

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The proposed project is intended to accommodate growth in the region. The project would not involve growth-inducing impacts or cause an exceedance of established population or growth projections. The project includes uses that are consistent with the planned land uses within the general plans for the County of Los Angeles as well as the surrounding cities. Since the project would not increase population within the area, and the project uses are consistent with the general plan land uses, the project is considered consistent with the air quality management plan. After the implementation of recommended mitigation measures, the proposed project would not produce long-term significant quantities of criteria pollutants or violate ambient air quality standards. Less than significant impacts to the applicable air quality plan would occur with project implementation.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant With Mitigation (b, d). The State CEQA Guidelines define a significant effect on the environment as "a substantial adverse change in the physical condition which exists in the area affected by the proposed project." In order to determine whether or not the proposed project would cause a significant effect on the environment, the impact of the project must be determined by examining the types and levels of emissions generated and their impacts on factors that affect air quality. To accomplish this determination of significance, the South Coast Air Quality Management District (SCAQMD) has established air pollution thresholds against which a proposed project can be evaluated and assist lead agencies in determining whether or not the impacts associated with the proposed project are potentially significant. If the thresholds are exceeded by the proposed project, then it should be considered significant.

While, the final determination of whether or not effects of a project are significant is within the purview of the lead agency pursuant to § 15064(b) of the State CEQA Guidelines, the SCAQMD recommends that the following air pollution thresholds be used by lead agencies in determining whether the proposed project could result in a significant impact. If the lead agency finds that the proposed project has the potential to exceed these air pollution thresholds, the project effects should be considered significant. Each of these threshold factors is discussed below.

Standards of Significance

Thresholds for Construction Emissions

The following significance thresholds for construction emissions have been established by the SCAQMD. Projects in the South Coast Air Basin with construction-related emissions that exceed any of these emission thresholds should be considered to be significant:

- 75 pounds per day of Reactive Organic Gases (ROGs)
- 100 pounds per day of Nitrogen Oxides (NOx)
- 550 pounds per day of Carbon Monoxide (CO)
- 150 pounds per day of Particulate Matter between 2.5 and 10 micrometers in diameter (PM_{10})
- 150 pounds per day of Sulfur Oxides (SOx)

Thresholds for Operational Emissions

Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the SCAQMD *CEQA Air Quality Handbook* (1993). The criteria include emissions thresholds, compliance with State and National air quality standards and conformity with existing State Implementation Plan (SIP) or consistency with the current Air Quality Management Plan (AQMP). The daily operational emissions "significance" thresholds are:

Regional Emissions Thresholds

- 55 pounds per day of ROG
- 55 pounds per day of NOx
- 550 pounds per day of CO
- 150 pounds per day of PM_{10}
- 150 pounds per day of SOx

Projects in the South Coast Air Basin with operation-related emissions that exceed any of the emission thresholds should be considered significant.

Local Emission Standards

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

The significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have significant impacts if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. The SCAQMD defines a measurable amount as 1.0 ppm or more for the 1-hour CO concentration by or 0.45 ppm or more for the 8-hour CO concentrations.

The SCAQMD indicates in Chapter 6 of the *Handbook*, that they consider a project to be mitigated to a level of insignificance if its emissions are mitigated below the thresholds provided above.

Operational Phase (Secondary Effects)

The SCAQMD recommends that "additional indicators" should be used as screening criteria with respect to air quality. Relevant additional factors identified in the *Handbook* include the following significance criteria:

- interference with the attainment of the federal or State Ambient Air Quality Standards by either violating or contributing to an existing or projected air quality violation

- generation of vehicle trips that cause a CO "hot spot"

The SCAQMD indicates in Chapter 6 of the *Handbook* that they consider a project to be mitigated to a level of insignificance if its secondary effects are mitigated below the thresholds provided above.

Standard Conditions and Uniform Codes

All projects constructed in the South Coast Air Basin are subject to standards, conditions, and Uniform Codes. Compliance with these provisions is mandatory and as such, does not constitute mitigation under CEQA. Those conditions specific to air quality are included below:

- Adherence to SCAQMD Rule 403, which requires that "...every reasonable precaution (is taken) to minimize fugitive dust emissions..." from grading operations to control particulate emissions, shall be implemented during the grading and construction phase.

- Adherence to SCAQMD Rules 431.1 and 431.2 which require the use of low sulfur fuel for stationary construction equipment.

- Adherence to SCAQMD Rule 1108 which sets limitations on ROG content in asphalt.

- Adherence to SCAQMD Rule 1113 which sets limitations on ROG content in architectural coatings.

- The project shall comply with Title 24 energy-efficient design requirements as well as the provision of window glazing, wall insulation, and efficient ventilation methods in accordance with the requirements of the Uniform Building Code.

Impact Analysis

The following analysis is based on methodologies and emission factors included in the SCAQMD *Handbook*, the URBEMIS72002, EMFAC2002, and CALINE4 computer models, and the Caltrans CO Protocol.

The project includes replacement of the Surgery and Emergency Department through a relocation of these facilities into an expansion of the existing hospital building. This expansion would occur along the west side of the existing hospital structure. The expansion includes two stories, a basement, and an eight-story elevator tower encompassing approximately 190,300 square feet. The expansion also includes the demolition and refurbishment of an existing parking area and the removal of 14,000 square feet of existing structure. The area that currently houses the Surgery and Emergency Department will be remodeled to accommodate outpatient services.

The hospital also includes modifications to the existing helistop. A temporary helistop would be located at the southwestern portion of the hospital campus until the modifications are complete. This temporary stop would be used for a period of 2 to 3 years. Construction is estimated at 4 years with project completion expected in the year 2010.

Short-Term Construction-Related Impacts

Air quality impacts may occur during site preparation and construction activities required to implement the proposed land use. The project includes building demolition, building relocation, and the construction of 190,300 square feet of structure, and refurbishment of the parking area on approximately 17 acres. Major sources of emissions during this phase include exhaust emissions generated during demolition, site preparation, and subsequent construction of the structures, fugitive dust generated as a result of soil disturbances during demolition and excavation activities, and the emission of reactive organic compounds during site paving and painting of the structures.

<u>Exhaust and Dust Emissions</u>

Construction is extremely variable in time and space; therefore, daily emissions can only be approximated. The URBEMIS model estimates that for non-residential land uses, the area to be disturbed by daily grading activities is one half that of the structures to be constructed. Based on the construction of 190,300 square feet of structure, 95,150 square feet (2.2 acres) of area could be disturbed on any given day during the construction effort.

URBEMIS modeling was prepared to estimate the construction emissions associated with the demolition and subsequent development. The model assumes three phases to construction including demolition, grading and site preparation, and construction of the buildings including painting and paving. The URBEMIS model uses a default value of 1 year for construction. The model was reprogrammed to reflect a 4-year construction schedule beginning in January 2006. Based on the 4-year value, the model estimates demolition at 2.4 months, grading at 4.8 months, and building construction at 40.8 months during the 4-year period. Of this last phase, painting and paving are presented at 4.1 month and 2 months, respectively.

The model does not project the level of construction equipment used during demolition. However, the model notes that one rubber tired dozer and one tractor/loader/backhoe are required for each 0.5 acre disturbed during grading. The area to be demolished (i.e., approximately 14,000 square feet) represents just 0.3 acre and one dozer and one loader are assumed for these operations. This same equipment could also be used in the removal of the existing asphalt paving. Additionally, demolition would generate truck haul trips to remove the debris. The model estimates that this would be accomplished using five trucks generating 147 miles per day.

The model estimates that site grading would encompass as much as 2.2 acres per day and assigns eight pieces of heavy equipment to this task, estimated at 4.8 months. The construction of the structures is then estimated at 40.8 months. The model estimates that 17 pieces of equipment would be used during the construction of the structures. An additional three pieces are used in the construction of the parking area, estimated by the model at 2.2 acres. The results of the model are included in Table 5.3-4. Note that the modeled assumptions include the use of those measures included in SCAQMD Rule 403 that overlap the mitigation measures included in the model. These include twice daily watering of the active construction area, the replacement of disturbed soil as quickly as feasible, and the covering (wetting) of any stockpiles and haul roads. In actuality, Rule 403 includes measures beyond those available in the model and so the values are considered as conservative.

The model projects that based on the noted schedule and equipment involvement, NOx emission could exceed the daily threshold during site grading representing a potentially significant impact. The construction of the structures could also result in exceedance of the NOx threshold. Additionally, building construction could exceed the ROG threshold during the application of paints and coatings, again resulting in a potentially significant impact. The model results are included in Appendix A-1 of Appendix A.

TABLE 2
CONSTRUCTION EMISSIONS

Pollution Source	Pollutants (lb/day)				
	CO	NOx	ROG	SOx	PM_{10}[1]
Demolition Phase					
Equipment & Worker Vehicles	32.1	38.7	4.5	0.1	2.8
SCAQMD Daily Threshold	550	100	75	150	150
Exceeds Threshold?	No	No	No	No	No
Grading/Site Preparation Phase					
Equipment & Worker Vehicles	123.4	137.9	17.3	0.0	14.0
SCAQMD Daily Threshold	550	100	75	150	150
Exceeds Threshold?	No	Yes	No	No	No

TABLE 2 (CONT.)
CONSTRUCTION EMISSIONS

Pollution Source	Pollutants (lb/day)				
	CO	NOx	ROG	SOx	PM_{10}[1]
Building Construction Phase					
Equipment, Worker Vehicles, & Coatings	253.8	200.8	109.2	0.0	9.2
SCAQMD Daily Threshold	550	100	75	150	150
Exceeds Threshold?	No	Yes	Yes	No	No
[1] Includes PM_{10} for both exhaust and dust.					
Source: Air Quality Study, Synectecology, March 2005.					

Long-Term Operational Impacts

Long-term air quality impacts are those associated with the emissions produced from project-generated vehicle trips as well as from stationary sources related to the use of natural gas.

Mobile Source Emissions

The traffic analysis prepared by Kaku Associates (2005) estimates that the project would generate as many as 246 new trips per day once construction is complete. Emissions generated by project-related trips are based on the URBEMIS2002 computer model and assume year 2010 emission factors. Projected emissions are included in Table 3. Note that all emissions are within their respective criteria and the impact is less than significant. Model runs are included in Appendix A-2 of Appendix A.

TABLE 3
DAILY OPERATIONAL EMISSIONS[1]

Source	Pollutants (lb/day)				
	CO	NOx	ROG	SOx	PM_{10}
Mobile Sources	21.3	2.9	4.2	0.0	0.1
Natural Gas	0.5	1.3	0.1	0.0	0.0
Operational Total	21.8	4.2	4.3	0.0	0.1
Threshold	550	55	55	150	150
Exceeds Threshold	No	No	No	No	No
[1] Bold values denote a potentially significant impact.					

Secondary Impacts

Other air quality impacts will also occur indirectly because of project implementation. These indirect impacts, though individually small, can make a substantial contribution to regional air quality when summed for the Basin overall. These secondary impacts include the on-site combustion of natural gas used for cooking, heating, and hot water.

The emissions associated with the use of 190,300 of hospital space are projected by the URBEMIS2002 model and their daily contribution is included in Table 3. The reduction in emissions associated with the removal of the existing 5,037 square feet of structure would not change the results of the analysis.

Microscale Projections

An impact is also potentially significant if emission levels exceed the State or Federal Ambient Air Quality Standards. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to these air quality standards is typically demonstrated through an analysis of localized CO concentrations.

Areas of vehicle congestion that have the potential to create "pockets" of CO are called "hot spots." These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. Note that the federal levels are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition will occur based on the State standards prior to exceedance of the federal standards.

Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersection locations. Typically, the level of service (LOS) at an intersection producing a hot spot is at "D" or worse during the peak hour. The traffic analysis indicates that the intersections at Normandie and Carson, Vermont and Carson, and Vermont and 223rd Street will operate at LOS E or F at project build out. Additionally, the intersection of the SB I-110 ramp and Carson would operate at LOS E. However, because this latter intersection serves as an on-ramp, no sensitive receptors are located immediately adjacent to it. Additionally, freeway emissions would overshadow those produced at the intersection such that any projected CO values would be meaningless.

To demonstrate the potential for the project to create hot spots, CALINE4 modeling was performed using the procedures outlined in the Caltrans CO Protocol (December 1997). The analysis includes the cumulative, with project traffic as a worst case evaluation for both the a.m. and p.m. peak-hour periods. The analysis retains the existing lane configurations. Any proposed traffic mitigation measures were not included in the analysis. Any measures that reduce congestion would be expected to result in reduced CO concentrations. Model results are included in Table 4. Modeling information methodology is included in Appendix A-4 of Appendix A.

TABLE 4
CARBON MONOXIDE MICROSCALE ANALYSIS[1] BASED ON CUMULATIVE TRAFFIC WITH PROJECT

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	Volume	1-hour CO Concentration (ppm)	8-hour CO Concentration (ppm)	Volume	1-hour CO Concentration (ppm)	1-hour CO Concentration (ppm)
Normandie @ Carson	4,593	10.5	8.3	5,257	10.6	8.4
Vermont @ Carson	5,284	10.8	8.6	5,544	11.3	8.9
Vermont @ 223rd	4,200	10.6	8.4	4,507	10.5	8.3

[1] As measured at a distance of 10 feet from the corner of the intersection predicting the highest value. CO values include background concentrations of 2.6 and 1.8 ppm for 1- and 8-hour concentrations, respectively. Eight-hour concentrations are based on a persistence factor of 0.7 of the 1-hour concentration.
Carbon Monoxide (CO)
Parts Per Million (ppm)

The modeling results depicted in Table 4 show that none of the intersections would violate either the 1-or 8-hour California standards of 20 and 9.0 ppm, respectively, and the impact is less than significant.

Mitigation Measures

Construction

Site construction activities are estimated to result in an exceedance of the NOx threshold both during the grading phase and subsequent construction of the structures. Additionally, if conventional paints and coatings are used, building construction is anticipated to create significant ROG emissions associated with the application of these products and mitigation is warranted to reduce this impact to less than significant levels. Applicable mitigation includes the requirement that the construction contractor use low volatility paints and coatings as discussed below:

Exhaust Emissions

- Heavy equipment shall be tuned up and maintained in accordance with manufacturer's specifications. Equipment logs demonstrating proper maintenance shall be maintained at the site during construction activities.

- Heavy equipment used during demolition, site preparation, and grading shall not exceed an aggregate use of 46 hours per day. Heavy equipment use during building construction shall not exceed an aggregate of 80 hours per day. Equipment logs demonstrating daily use shall be maintained at the site during construction activities.

- Heavy equipment shall not be allowed to remain idling for more than a five-minute duration.

- Trucks shall not be allowed to remain idling for more than a two-minute duration.

- Electric power shall be used to the exclusion of gasoline or diesel generators and compressors whenever feasible.

- Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and, if necessary, a flag-person shall be retained to maintain safety adjacent to existing roadways.

ROG Emissions

- All primers shall contain less than 0.85 pound per gallon (102 gram/liter) VOC.

- All top coats shall contain less than 0.07 pound per gallon (8 grams/liter) VOC.

Residual Impacts

Exhaust Emissions

The grading analysis includes eight pieces of heavy equipment each operating 8 hours per day (64 hour per day aggregate). The reduction from 64 to 46 hours would reduce equipment emissions by over 28 percent. This would reduce exhaust NOx to 99.1 pounds per day. With the inclusion of the other noted measures, daily NOx would be reduced to less than 100 pounds per day and the impact is reduced to less than significant.

The URBEMIS2002 Model estimates that construction of the structures with the simultaneous application of asphalt and paint could create an estimated 200.8 pounds per day of NOx. This value is based on the use of 20 pieces of heavy equipment each operating 8 hours per day for an aggregate of 160 hours per day. The restriction that this equipment be limited to no more than 80 hours per day would reduce this value to about 100.4 pounds per day. Again, with the inclusion of the other noted measures, daily NOx would be reduced to less than 100 pounds per day and the impact is reduced to less than significant.

ROG Emissions

Several of currently available primers have VOC contents of less than 0.85 pound per gallon (e.g., dulux professional exterior primer 100% acrylic). Top coats can be less than 0.07 pound per gallon (8 gm/liter) (e.g., lifemaster 2000-series). The 109.2 pound-per-day value presented for ROG in Table 2 includes 78.1 pounds per day from the use of paints and coatings and is based on coatings having a VOC content of 250 grams per liter. Assuming two coats of primer and one top coat, the mitigation would result in an average VOC content of about 71 grams per liter and paint emissions would be reduced from 78.1 to 22.2 pounds per day. Total ROG (including the simultaneous degassing of asphalt) would be reduced to no more than 53.3 pounds per day reducing the impact to less than significant.

c) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*

Less Than Significant Impact. The project area is out of attainment for ozone, CO, and PM_{10} particulate matter. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, the greatest cumulative impact on the quality of regional air will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development.

Mitigation measures identified below will reduce the project's emissions contribution mitigating its cumulative impact and can be applied to all similar cumulative projects.

In accordance with SCAQMD methodology, any project that can be mitigated to less than the daily emissions thresholds, does not add significantly to the cumulative impact. As such, with the implementation of the proposed mitigation, construction impacts are reduced to less than significant and are, therefore, less than significant on a cumulative basis. Project operations are not projected to result in any significant impacts and no further mitigation is warranted.

With respect to cumulative impacts to Ambient Air Quality Standards, the traffic analysis prepared by Kaku Associates, and analysis presented in Table 4 include the composite CO emissions generated by existing, ambient growth, plus related project, plus project-generated traffic. Thus, the analysis includes the cumulative CO levels and as noted above, the project does not present a cumulative impact in this respect.

e) *Create objectionable odors affecting a substantial number of people?*

Less Than Significant Impact. In addition to exhaust, dust, and ROG, project construction could release odors. Odors are one of the most obvious forms of air pollution to the general public and can present significant problems for both the source and the surrounding community. Although offensive odors seldom cause physical harm, they can cause agitation, anger and concern to the general public. Most people determine an odor to be offensive (objectionable) if it is sensed longer than the duration of a human breath; typically 2 to 5 seconds.

The only potential odors associated with the project are from the application of asphalt and paint during the construction period. These odors, if perceptible, are common in the environment and would be of very limited duration. Therefore, any odor impacts would not be considered as significant.

4. BIOLOGICAL RESOURCES—Would the project:

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

No Impact. The 72-acre campus, including the project site, is completely developed and is currently void of trees or other distinctive landscape elements that have the potential to harbor sensitive plant or animal species. As a result, there is no native vegetation on the project site. The project site is adjacent to paved parking lots, impervious sidewalks, city streets, and several other medical facility buildings, none of which contain sensitive plant or animal species. Implementation of the proposed project would not result in a decrease in the diversity of species or number of plants, or a reduction in the number of unique, rare, or endangered species. There are currently no plant or wildlife species on the project site that are considered sensitive at either the federal, state of local level. Therefore, the project will not have a substantial adverse effect on sensitive species or their habitat.

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?*

No Impact. Existing vegetation on the project site is limited to a few ornamental species. The project includes a landscaping plan as required by the Harbor-UCLA Medical Center Master Plan. Thus, project development would likely increase the amount of ornamental vegetation onsite. Because of the lack of native vegetation and the developed nature of the site, there is no native habitat for animal species. Animals existing onsite, if any, consist of species common to urban areas, such as species of rodents and birds. Project development would not result in a decrease in the diversity of animal species, unique or endangered species, or deterioration to existing wildlife habitat. The project would not introduce new animal species into the area. There are no existing fish or wildlife habitats in the project vicinity that would be impacted by the project. Recent project site visits indicate that there are no riparian habitats or sensitive natural communities on the project site or in the immediate vicinity. Instead, parking lots, sidewalks, buildings and limited landscape characterize the project site. There are no riparian areas in close enough proximity to the site to be impacted by any phase of project implementation. Therefore, implementation of the proposed project would not result in any impacts on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations.

c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. Recent site visits indicated that there are no wetlands or any other aquatic resources on the site. All surrounding land uses are highly developed. There are no federally protected wetland areas in close enough proximity to the site to be impacted by any phase of project implementation. Therefore, project implementation would have no effects on federally protected wetlands as defined by Section 404 of the Clean Water Act.

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

No Impact. The project site is highly developed, and is surrounded by urban uses including existing buildings, sidewalks, parking lots, and city streets. Accordingly, the project site was not identified as part of or linking to any wildlife corridors. There are no wildlife nursery sites in the project site vicinity. Therefore, project implementation will not interfere with the movement of any species or impede the use of native wildlife nursery sites.

e) *Conflict with any local applicable policies protecting biological resources?*

No Impact. There are no biological resources on the project site and consequently there are no local policies applicable to protecting biological resources at this project site. Implementation of this project will not affect biological resources outside the project footprint. Therefore, project implementation will not conflict with any local policies protecting biological resources.

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?*

No Impact. The project site is void of habitat, except for ornamental landscaping that presents extremely low wildlife habitat value. Therefore, provisions of any local, regional or national Habitat Conservation Plan or Natural Community Conservation Plan are inapplicable to this project site since it contains no habitat. Therefore, project implementation will not create a conflict with an adopted conservation plan.

5. CULTURAL RESOURCES—Would the project:

a) *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Less Than Significant With Mitigation Incorporated—a) and b). Although there are no known historic or archaeological resources sites on or in proximity to the project site, construction for the proposed project involves excavation of earth material and thereby may disturb previously unidentified cultural resources. Construction activities that could disturb cultural resources include removal of previously placed non-native trees and recent geologic deposits, demolition of existing buildings, and reconfiguration of onsite parking lots. The entire project site has been previously disturbed and no cultural resources were uncovered. The project site is not listed on the National Register of Historic Places, California State Landmarks, or any other local inventory lists used to identify the presence of historical or archaeological resources. Thus, while the potential for disruption of unknown subsurface archaeological resources exists, it is considered minimal. Implementation of the recommended mitigation measures listed below would reduce potential impacts on archaeological resources to a level considered less than significant.

c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Less Than Significant With Mitigation Incorporated. The project site has been previously disturbed by the implementation of the existing features on the site. Therefore, the likelihood of disturbing paleontological resources during this project's implementation is low. However, if project-related excavation penetrates previously undisturbed deposits, there is a potential for damage to paleontological resources. However, adherence to the mitigation measures below will reduce potential paleontological impacts to less than significant.

d) *Disturb any human remains, including those interred outside of formal cemeteries?*

Less Than Significant Impact. There is no evidence that this project site may have been a human burial site. Accordingly, human remains are not likely to be present at the project site during grading operation. However, in the unlikely event that human remains are unearthed during construction, State law requires that per the California Health and Safety Code 7050.5 and CEQA Section 15604(e), the Los Angeles County Coroner must be contacted within 24 hours of the discovery. No further disturbance shall occur in the vicinity of the find until the coroner has made the necessary findings as to the origin and disposition pursuant to the California Public Resources Code 5097.98.

Mitigation Measures

- Prior to construction, the County of Los Angeles Department of Public Works shall verify that the following measures to protect cultural (archaeological and paleontological) resources are included in the contractor specifications. If evidence of cultural resources is encountered during project grading, all grading and related activity shall cease in the immediate area of the find and then a qualified archaeologist or paleontologist shall be retained to perform the following:

- To assess the significance of the resource.

- To recover artifacts that are determined significant and shall be offered to a repository with a retrievable system and an educational and research interest in the materials (i.e., Los Angeles County Museum).

- If human remains of possible Native American origin are encountered during the project, along with the Native American Heritage Commission, the Los Angeles County coroner's office and a qualified archaeologist shall be contacted by the contractor for preservation and protection of the remains per the California Native Commission.

6. GEOLOGY AND SOILS—Would the project:

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

ii) *Strong seismic ground shaking?*

Less Than Significant Impact—a), i) and ii). The geologic hazards at the site are essentially limited to those caused by earthquakes. The project site is located in a seismically active region and in the proximity of several of the many active and potentially active faults in Southern California. Under the Alquist-Priolo Special Studies Zones (APSSZ) Act of 1972, the California State Geologist has delineated special studies zones along known active faults in California. Jurisdictions affected by the zones must regulate development within the zones and ensure that construction does not take place along potential rupture zones. The project does not lie within an APSSZ, and no faults are known to exist on or adjacent to the site. However, the Los Angeles area, including the project site, is exposed intermittently to strong, sometimes violent, ground movement associated with a rupture on a notable regional fault.

The closest active fault to the site is the Newport-Inglewood Fault zone, located approximately 3.8 miles to the northeast. Other nearby faults considered active are the Whittier Fault and the Malibu Coast Fault, located 19 miles northeast, and 19 miles northwest of the site, respectively. The San Andreas Fault is approximately 49 miles northeast of the site. The closest potentially active fault is the Richfield Fault, located approximately 2.1 miles east of the site. Other nearby potentially active faults include the Palos Verdes Fault and the Charnock Fault, located 3.8 miles southwest, and 4.1 miles northwest of the site, respectively. Strong groundshaking from seismic activity on a nearby fault can directly cause damage to buildings and infrastructure. Ground motion can also result in secondary impacts, such as liquefaction, ground failure, and seismic settlement. These in turn can result in severe damage to urban structures.

According to the State Hospital Safety Act (1972), critical care facilities must remain operational following a catastrophic earthquake. Thus, State Building Codes require complex foundation and structural support systems for the proposed Emergency Unit and Surgery Unit. Although the site could be subject to violent shaking in the event of a major earthquake, this hazard is common throughout Southern California, and the effects of shaking can be minimized by standard structural design and construction. Therefore, with adherence to standard design measures listed below, project related seismic risks would be reduced to less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction potential is greatest where the groundwater level is shallow and loose fine sands occur within a depth of about 50 feet or less. Groundwater data developed by the Los Angeles Department of Public Works (1992) for the fall of 1990 indicated a water surface elevation of about 45 feet below mean sea level in the area of the project site. Based on an average site elevation of about 40 feet, the corresponding groundwater depth would be approximately 85 feet. The water level can be expected to fluctuate as a result of water spreading for groundwater replenishment at the nearby basins; however, water levels are not expected to reach or exceed historic highs. Groundwater was encountered at depths of 65 and 68 feet within two of the exploratory borings drilled at the site by Law/Crandall, Inc.; therefore, the potential for liquefaction occurring beneath the site is judged to be low (Law/Crandall, Inc., 1993). Additionally, the soils underlying the site (i.e., clay, silty sand, sand, and silt) are considered to be medium dense to dense. Therefore, the possibility of liquefaction occurring within the underlying deposits is considered very remote.

iv) Landslides?

No Impact. The Harbor-UCLA Medical Center is located on the Torrance Plain, a broad, nearly flat alluvial plain situated on the southern portion of the Los Angeles Coastal Plain. The 72-acre campus has been fully developed since the early 1970s. The medical center site is relatively flat, and there are no significant or unusual natural geological features underlying the site (Albert C. Martin and Associates, April 1985). Thus, development of the proposed project would not alter the existing topography. There is no potential for landslides due to the slope of the project site. There are no surrounding land uses or surrounding project sites that increase the risk of landslides beyond those inherent in the proposed project site. Therefore, project implementation will not produce any landslide related adverse effects.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The project site is relatively flat and currently includes, and is surrounded by, impervious surfaces, buildings and small patches of previously disturbed ground that contain ornamental landscape. Project related excavation is not expected to result in a loss of substantial topsoil. Furthermore, the runoff from the site will be directed into local storm drains via existing surface drainage channels. Low flows of irrigation water in landscaped areas will typically be absorbed into the subsurface materials. Surrounding areas also do not contain native soils since the entire area around the project site is highly developed. Therefore, project related excavation or runoff from the site will not result in substantial soil erosion or loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact—c) and d). The project site is mantled by a thin veneer of artificial fill soils (approximately 3 to 5 feet in thickness), consisting primarily of silty clay. Borings conducted by Law/Crandall, Inc. indicated that the fill is underlain by marine and continental alluvial deposits of the late Pleistocene age Lakewood Formation consisting of clay, silty sand, sand, and silt (Law/Crandall, Inc., 1993). The Lakewood Formation deposits extend to a depth of about 150 feet beneath the site where they are underlain by deposits of the early Pleistocene age San

Pedro Formations. The existing fill soils are not considered suitable for foundation or floor slab support.

The upper clay soils are cohesive and medium stiff, while the sandy soils are medium dense. Approximately 8 feet below the surface, the silt and clay soils are stiff while the silty sand and sand are dense. The clay soils are expansive and would swell and shrink with changes in moisture content.

Construction of the new facilities would require some excavation of the underlying silt, sand, and clay. With implementation of proper foundation design and construction, these soils would provide adequate support for the structure. However, where the upper soils are expansive, special procedures would be included in the foundation designs to reduce expansion-related problems. Areas containing poorly placed fill materials may not provide adequate support; these materials would be removed and replaced during grading activities.

Because onsite soils are firm, the probability of seismically-induced settlement is considered low. Implementation of the recommended mitigation measures would reduce potential project impacts related to unstable earth conditions and changes in geologic substructures to a level considered less than significant.

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

No Impact. The project will include structures that will be connected to the existing sanitary sewer system. No septic tanks or alternative wastewater disposal systems will be implemented in association with the proposed project.

Mitigation Measures

Many structural features of the project have been engineered to reduce, to a minimum, the potential geologic, seismic, and soil impacts. The proposed structures would be constructed in strict accordance with current earthquake resistance standards and the State Hospital Safety Act. The following standard design measures are recommended.

- During construction, the contractor shall remove loose, disturbed material, uncertified fill, or otherwise unsuitable soils and replace them with properly compacted fill material as required by the approved construction documents.

- During final design, the County of Los Angeles shall incorporate into the project design the recommendations for construction outlined in the Report of Geotechnical Investigation-Proposed Emergency Department/Surgery Pavilion and Ambulatory Care Facility, prepared by Law/Crandall, Inc. (November 16, 1993).

7. HAZARDS AND HAZARDOUS MATERIALS—Would the project:

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less Than Significant Impact. The Harbor-UCLA Medical Center presently generates solid wastes as well as medical and biohazard waste. Proper storage and transportation of these materials protects the public from exposure. According to the Harbor-UCLA Environmental Services Division, the 2005 Medical Waste Management Plan (MWMP) and the 2005 Emergency Management Plan (EMP) are currently in place to reduce the likelihood of exposure of humans or animals to medical and other wastes used and generated at the Medical Center. These plans will be updated, as needed, to take into account the proposed project, and applicable public service personnel will be made aware of any changes to the EMP, both during project construction and upon completion, that would affect its service.

Harbor-UCLA is a Resource Conservation and Recovery Act (RCRA) regulated large quantity generator of hazardous chemical waste (Registration No. 386r), with 1,400,000 pounds of total waste generated annually. The majority of this total is bulk alcohol and xylene, but it also includes pharmaceuticals classified by the Federal Government as extremely hazardous, such as epinephrine and nitroglycerin. Routine transport, use, and disposal methods for hazardous materials are described in Harbor-UCLA's MWMP. Currently, the MWMP is being monitored by the hospital's Hazardous Materials Safety Office and the Infection Control Department.

According to the MWMP, medical waste is defined as biohazard waste or sharps waste generated or produced as a result of the diagnosis, treatment, or immunization of human beings. The first form of medical waste, biohazard waste is regulated by California Health and Safety Code 117635 and is defined as any of the following:

- Laboratory waste
- Waste containing microbial specimens sent to a laboratory for analysis

- Human surgery specimens or tissues removed at surgery or autopsy, which are suspected of being contaminated with infectious agents known to be contagious to humans

- Specimens or tissues fixed with formaldehyde or other fixatives

- Animal parts, tissues, fluids, or carcasses suspected of being contaminated with infectious agents known to be contagious to humans

- Waste containing recognizable fluid blood products, containers, or equipment containing blood from animals known to be infected with diseases that are highly communicable to humans

- Waste containing discarded materials contaminated with excretion, exudates, or secretions from humans who must be isolated to protect against highly communicable diseases

- Chemotherapy trace waste and chemotherapy sharps

- Prescription drugs and containers

The second form of medical waste generated at Harbor-UCLA is known as sharps waste, which is regulated by California Health and Safety Code 117755. Sharps waste is defined as any device having rigid corners, edges or protuberances capable of cutting or piercing.

Treatment and disposal of the two forms of medical waste generated at Harbor-UCLA are carried out by both on-site treatment methods (Permit No. 87p) and by a licensed medical waste treatment company. This company is also contracted for removal of all wastes generated at the Medical Center during instances of on-site equipment problems or other emergencies.

The medical waste treatment company removes sterilized medical waste from the Medical Center daily Monday through Friday and disposes of it at the El Sobrante Landfill in Riverside County. Chemotherapy and morgue waste is removed by the medical waste treatment company weekly and taken to an off-site incinerator.

A hazardous waste hauler removes hazardous and pharmaceutical wastes generated at the Medical Center monthly. Approximately 500 pounds of pharmaceutical waste are generated monthly and taken to Thermal Combustion Innovators.

Through continued strict adherence to the MWMP, an increase in the amount of medical waste generated at Harbor-UCLA Medical Center is not expected to create a significant hazard to public or environmental health. With a projected 28 percent increase of total emergency service visits from 86,280 in 1998/1998/99 to 110,791 in 2020, and a projected 24 percent increase in the total number of surgeries performed from 8,470 in 1998-1999 to 10,466 in 2020, medical waste generation is not expected to exceed the disposal capabilities of waste removal contractors, such as Consolidated Waste Industries and Stericycle.

Current hazardous waste generation is approximately 150 tons per year and will increase with the proposed project. However, even conservatively assuming the 28 percent increase in emergency visits will directly correlate to such an increase in hazardous chemical waste generation (192 tons per year), this amount will not exceed 250 tons annually, which is the maximum tonnage of hazardous chemical waste allowed for a large quantity generator under RCRA. Therefore, the increase in the routine transport, use, and disposal of hazardous materials associated with the new Emergency Department and Surgery Pavilion at the Harbor-UCLA Medical Center is expected to have a less than significant impact on public and environmental health.

b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less Than Significant Impact. In a manner consistent with the Medical Center's current use and disposal of hazardous wastes as described above, the new Emergency Department and Surgery Pavilion will have hazardous wastes removed from the site and handled in accordance with the hospital's MWMP, which includes spill procedure contingencies to address reasonably foreseeable upset and accident conditions involving these hazardous materials.. The construction activities and subsequent increase in the daily generation of solid and hazardous wastes is not expected to exceed the capacity of the existing removal schedules and routines already in place. The MWMP and EMP will be updated, as needed, to take into account the proposed project so that, during project construction and upon completion, service will not be affected. Therefore, the project would result in less than significant impacts related to hazards to the public or environment.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less Than Significant Impact. An incinerator is no longer used to burn any form of waste on the Medical Center Campus and therefore, schools occurring within one-quarter mile of the Medical Center are not expected to be impacted by any form of hazardous emission either during construction of operation of the project.

According to the United States Geological Survey (USGS) *Torrance 7.5-Minute Quadrangle* (dated 1978, photorevised 1981) the following schools are located within one-quarter mile of the site and the boundaries of the existing Medical Center: Meyler Elementary School (1123 West 223rd Street, Torrance), White Middle School (22102 South Figueroa Street, Carson), and Halldale Elementary School (21514 Halldale Avenue, Torrance).

Operation of the new Emergency Department and Surgery Pavilion will likely result in an increase in the generation of hazardous and acutely hazardous waste, however, proper storage and disposal of these wastes, consistent with the regulations outlined in the Medical Center's MWMP and EMP will reduce, to a less than significant level, the likelihood that these materials will be released into the environment.

d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact. Harbor-UCLA (Environmental Protection Agency (EPA) Identification Number: CAD079605366) is listed on the RCRA database as a large quantity hazardous chemical waste generator. The current RCRA status of this facility is "No Violations Found." The use, treatment, and disposal of medical and hazardous wastes at the Medical Center is regulated by numerous health and safety codes as addressed in the beginning of this section. Harbor-UCLA is not a listed hazardous materials site pursuant to the Code of Federal Regulations Section 65962.5.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*

No Impact. The Medical Center is located in a densely urbanized area of Los Angeles County and is not known to be part of an airport land use plan. The closest public/public use airport (Torrance Municipal Airport) is over three miles away. Therefore, the project will not result in a safety hazard relative to a public airport for people residing or working at the Medical Center. Note that the scope of work for this public project includes the construction of a helipad immediately south of the new Emergency Department and Surgery Pavilion. While the helipad is not an airport, potential impacts resulting from the construction and operation of this helipad are discussed in Item 11 in this section of this document.

f) *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

No Impact. According to the USGS Torrance Quadrangle map, there are no private airstrips in the general vicinity of the Harbor-UCLA Medical Center. Therefore, private aircraft are not expected to impact the safety of people residing or working in the project area.

g) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

No Impact. The project as proposed is expected to have no impact on any city or county wide emergency evacuation plans. Harbor-UCLA has emergency evacuation plans in place for partial and full evacuations, within the hospital and to other local area hospitals, respectively. The proper procedures for the handling of patients and evacuation routes are described in the hospital's Emergency Preparedness Manual (Policy No. EPP 12), which will be updated, as needed, to address changes from the project. According to EPP 12, improvements at the Medical Center, both during construction and upon completion, will not impact the emergency evacuation plan.

h) *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

No Impact. The project site as well as the entire Harbor-UCLA Medical Center campus is located within a densely developed area that is not adjacent to or intermixed with wildlands. Therefore, both people and structures in and surrounding the Medical Center will not be exposed to a risk of loss, injury, or death involving wildland fires.

8. HYDROLOGY AND WATER QUALITY—Would the project:

a) *Violate any water quality standards or waste discharge requirements?*

No Impact. The Harbor-UCLA Medical Center receives it water from the Metropolitan Water District, which is responsible for ensuring that the water provided to its customers meets or exceeds applicable state and federal water quality standards. Wastewater generated from the onsite medical facilities is collected and conveyed to the Los Angeles County Sanitation District treatment plant via sewer service provided by a 10-inch lateral on the east side of the main hospital building, and a 54-inch diameter trunk sewer line running north-south across the site. Additionally, a 63-inch diameter trunk sewer line in a 7-foot wide easement runs east-west along South Drive and 220th Street, but this sewer line, while still in place, has been taken out of service. According to the Los Angeles County Sanitation District, there is enough capacity for wastewater discharges from the proposed project, which will not include hazardous or infectious material, and which will be limited to discharges through the internal plumbing system that will connect to these sewer facilities (Appendix D). Therefore, project implementation will not violate any water quality standard or wastewater discharge requirements.

b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

No Impact. All water demand for the proposed project will be met through Harbor-UCLA Medical Center's existing piped water system, and no wells will be used or drilled to support this project's implementation. The project site is located within the West Coast Hydrologic Subarea of the Coastal Plain of Los Angeles County. Unconfined groundwater in the project area occurs in the underlying alluvial deposits. Deeper, confined groundwater occurs in the Gage Aquifer, Lynn Aquifer, and the Silverado Aquifers. Data developed by the Los Angeles County Flood Control District indicates the presence of groundwater at approximately 85 feet below the ground surface elevation of the Harbor-UCLA Medical Center. Groundwater was encountered at depths of 65 to 68 feet within two of the exploratory borings drilled (Law/Crandall, Inc. July 1993). However, project-related excavations are not anticipated to exceed approximately 25 feet, and it is therefore unlikely that the project would result in the interception of an aquifer or groundwater Thus, project development would not substantially deplete or interfere with groundwater supplies or recharge, nor would the project result in changes in the amount or direction of water movements, or alteration of groundwater flows or quantities.

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*

d) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

Less Than Significant Impact—c) and d). The project site is in a highly developed portion of the campus and is void of any rivers, streams or drainage channels. One medical building and associated parking lots currently occupy the site, which is largely covered by impervious surfaces. The amount of impervious surfaces will not increase as a result of project implementation, and therefore, there will not be an increase in total site runoff.

Development of the proposed project could alter drainage patterns due to the presence of an open drainage channel that runs from the southwest corner of the Medical Center, along the southern boundary, and then crosses the campus from the south to north in an enclosed channel, west of the main hospital building. The Los Angeles County Flood Control District would allow construction over this channel under conditions that the construction would not stress the channel or interfere with its normal maintenance. Project implementation in accordance with these conditions would, therefore, avoid alteration of the drainage channel. Accordingly, no significant increases in erosion or the rate and amount of surface runoff are expected with implementation of the project, and proposed project will not substantially alter existing drainage patterns or runoff rates to a point that would cause adverse environmental impacts.

e) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Less Than Significant Impact. As mentioned in the preceding response, implementation of the project would not result in increased run-off. The existing drainage system has adequate capacity to handle current run-off rates. Since the project will not increase such rates, the drainage system capacity will not be exceeded due to project implementation. Project implementation would result in a net loss of approximately 548 parking spaces, which will thereby reduce the amount of paved surface parking lot area. Parking lots often contribute a higher level of contaminants than rooftops or sidewalks due to the accumulation of vehicle related waste such as motor oil, rubber tire residues and dripping automobile fluids. Since the project will reduce the overall parking lot area, the composition of stormwater site run-off is anticipated to improve. However, urban contamination within stormwater discharges is a primary concern for the National Pollutant Discharge and Elimination Systems stormwater discharge regulations that affect new construction sites (over 1 acre in size). The project will be required to obtain a permit from the State Regional Water Quality Control Board. The California General Permit for New Development will be sufficient for the proposed construction. The General Permit must be applied for by filing a Notice of Intent with the Regional Water Quality Control Board (RWQCB) and paying fees in accordance with the acreage of land disturbed at least 90 days prior to the onset of grading. A stormwater pollution prevention plan (SWPPP) must be developed that uses structural and nonstructural Best Management Practices (BMPs) to obtain reductions in urban pollutant loading to the "maximum extent practicable." The implementation of the mitigation measures below will further reduce surface water quality impacts.

f) *Otherwise substantially degrade water quality?*

No Impact. The proposed project will not involve any surface water discharges other than the previously mentioned runoff into the local storm drain system and internal wastewater discharges into the existing sewer system. No other water or liquids will be released from the interior of the buildings on the site, except for releases into the existing sewer system. Therefore, project implementation will not otherwise substantially degrade water quality.

g) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

h) *Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?*

i) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*

No Impact—g), h), and i). Federal Emergency Management (FEMA) flood maps identify the project site as being in a located in an area of minimal flood hazard. The project site is not located near a body of surface water or in an area exposed to flooding. The site is located in a Zone C flood hazard area, which by definition is an area of minimal flooding. No housing exists or is planned on the project site. There are no dams or river levees in the project vicinity. The project site is not within a floodplain or a flood-prone area. Placement of project structures will not impede or redirect flood flows. Project implementation would not expose people or structures to a significant risk of loss, injury or death as a result of flooding.

j) *Inundation by seiche, tsunami, or mudflow?*

No Impact. The project site is located at approximately 42 feet above mean sea level, and is 5 miles from the coastline or a large inland body of water, to preclude the hazard of a tsunami or seiche. The project site is flat and there are no existing drainages in the vicinity that could carry a mudflow to the site. Therefore, site inundation by a seiche, tsunami or mudflow is highly unlikely, and project implementation has no impact relative to seiches, tsunamis, or mudflows.

Mitigation Measures

- The Contractor shall file a Notice of Intent (NOI) to be covered by the California General Permit for New Development under the NPDES Stormwater Discharge Program. The NOI shall be accompanied by a SWPPP and appropriate fees and shall be filed with the State Water Resources Control Board at least 90 days prior to the onset of the site grading.

The County shall prepare for approval prior to construction activities, a SWPPP described above which shall include the siting and maintenance of temporary sediment collection basins, the use of filter fences, filter dikes, and other construction site best management practices (BMPs) near stormwater system outlets.

9. **LAND USE AND PLANNING**—Would the project:

a) *Physically divide an established community?*

b) *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

No Impact—a) and b). There are no established communities on the project site. Implementation of the project would not result in extensions of County facilities beyond the site boundaries. The proposed project is within the developed parameters of the existing Harbor-UCLA Medical Center, and would be compatible with the existing campus uses as well as the land uses surrounding the campus. The noise impact analysis for the temporary helistop (see Item 11 in this Section) describes that flight operations at the temporary helistop would not result in a significant noise impact. Development of the project would require the demolition of four campus buildings and relocation of one modular building; however, such removal would not conflict with any applicable land use plan. The medical center is owned by and under the jurisdiction of the County of Los Angeles. The property is completely surrounded by and within the jurisdictions of the County of Los Angeles on the north, east, and south sides and by the City of Los Angeles (Harbor Gateway) on the west. The project site is currently zoned C-3, the highest intensity commercial zoning use. Hospitals are allowed in this zoning classification under a conditional use permit. However, because this site is currently being used for a hospital, a conditional use permit would not be required. The proposed emergency department and surgery pavilion; parking; and helistop are part of Phase I of the master plan for the Medical Center. In addition to being internally compatible, the master plan improvements will be developed in accordance with adopted design standards, development controls, and landscaping guidelines outlined in the master plan, which takes surrounding land uses into consideration. Therefore, project implementation would not physically divide a community or conflict with any applicable land use plans.

c) *Conflict with any applicable habitat conservation plan or natural community conservation plan?*

No Impact. The site is located in a highly developed area, and as such is not in or adjacent to any habitat conservation or natural community conservation areas. Therefore, project implementation will not conflict with any habitat conservation plan or natural community conservation plan.

10. MINERAL RESOURCES—Would the project:

a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

b) *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No Impact—a) and b). The highly developed project site and surrounding vicinity are not known to contain significant mineral resources. The California Division of Mines and Geology (CDMG) is the state agency with the responsibility to oversee the management of mineral resources in California. The CDMG considers a site to be significant in regard to mineral commodities if the site can be mined commercially, inferring that there must be enough mineral resources on the site to be economically viable. Since the site is not and has not historically been mined for mineral resources, it is assumed that the geologic materials on the site do not contain such mineral commodities. Construction and operation of the proposed project would require the use of natural resources including energy, water supplies and construction materials. However, the rate of the use of these natural materials would not be substantially increased. In addition, development and operation of the proposed project would not substantially deplete any nonrenewable natural resources, or result in the loss of availability of a known mineral resource.

11. NOISE—Would the project result in:

a) *Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?*

b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

d) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Less Than Significant Impact—a-d. Following is a summary of the noise study that was prepared for the project and the noise assessment prepared for the temporary helistop located in Appendices B and C, respectively.

<u>County of Los Angeles</u>

The proposed project site is located within an unincorporated portion of the County of Los Angeles and is therefore subject to the General Plan and Noise Element incorporated therein. While the Noise Element does discuss goals and the need to reduce noise, it does not set land use noise compatibility standards. It does, however, refer to the noise ordinance as a way to achieve its goal of reducing noise from all sources. The Los Angeles County Noise Ordinance does include land use compatibility standards and these are codified in Section 12.08.390 of the Ordinance. The current standards are included in Table 5.

TABLE 5
COUNTY OF LOS ANGELES LAND USE GUIDELINES FOR EXTERIOR NOISE

Land Use	Time Interval	Exterior Noise Level (dBA))
Noise-sensitive area	Anytime	45
Residential Properties	10:00 p.m.—7:00 a.m. 7:00 a.m.—10:00 p.m.	45 50
Commercial Properties	10:00 p.m.—7:00 a.m. 7:00 a.m.—10:00 p.m.	55 60
Industrial Properties	Anytime	70

A-weighted decibel scale (dBA)
Source: Noise Study, Syntececology (March 2005).

In the event that the noise measurement is obtained between two differing land use types, the standard is the arithmetic average of the two uses. These standards are not to be exceeded for a cumulative period of 30 minutes in any hour. However, greater noise levels are permissible for shorter durations. The standards are not to be exceeded by 5 dBA for a cumulative period of 15 minutes in any hour, by 10 dBA for a cumulative period of 5 minutes in any hour, by 15 dBA for a cumulative period of 1 minute in any hour, or by 20 dBA for any period of time. In the event that the ambient noise already exceeds these standards, the allowable noise shall be increased to reflect the ambient noise accordingly.

Section 12.08.070 includes exemptions from the ordinance. Those of relevance include:

- Emergency Exemption. The emission of sound for the purpose of alerting persons to the existence of an emergency, or the emission of sound in the performance of emergency work.

- Warning Devices. Warning devices necessary for the protection of public safety, as for example police, fire, and ambulance sirens.

- Federal or State Preempted Activities. Any activity to the extent regulation thereof has been preempted by state or federal law.

- Construction Activities. Construction activities conducted within the time limitations and restrictions set forth in the Code, and

- Maintenance and Construction Activities. Activities performed anytime on public right-of-way, and those situations which may occur on private real property deemed necessary to serve the best interests of the public's health and well being.

State of California Standards

The California Office of Noise Control has set acceptable noise limits for sensitive uses. The Community Noise Equivalent Level (CNEL) is a rating scale (or noise "metric") which exists to analyze adverse effects of noise, including traffic-generated noise, on a community. The CNEL noise metric is based on 24 hours of measurement. CNEL applies a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when quiet time and sleep disturbance are of particular concern). Noise occurring during the daytime period (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise produced during the evening time period (7:00 to 10:00 p.m.) is penalized by 5 dBA, while nighttime (10:00 p.m. to

7:00 a.m.) noise is penalized by 10 dBA. Sensitive-type land uses, such as hospitals and homes, are "normally acceptable" in exterior noise environments up to 65 dBA CNEL and "conditionally acceptable" in areas up to 70 dBA CNEL. A "conditionally acceptable" designation implies that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use type is made and needed noise insulation features are incorporated in the design. By comparison, a "normally acceptable" designation indicates that standard construction can occur with no special noise reduction requirements.

Helicopter Noise Standards

The Federal Aviation Administration (FAA) regulates the noise from aircraft. The Aviation Safety and Noise Abatement Act of 1979 required that the FAA establish a single system for measuring and evaluating noise impacts. The FAA chose the Sound Exposure Level (SEL). The individual values of the SEL for each helicopter takeoff, landing, and flyovers are combined and compared against the community noise levels.

The FAA Advisory Circular Number 150-5020-2, entitled "Noise Assessment Guidelines for New Helicopters recommends the use of a cumulative noise measure, the 24-hour equivalent sound level ($Leq_{(24)}$), so that the relative contributions of the heliport and other sound sources within the community may be compared. The $Leq_{(24)}$ is similar to the Ldn used in assessing the impacts of fixed wing aircraft. The helicopter $Leq_{(24)}$ values are obtained by logrithmetically adding the single-event SEL values over a 24-hour period.

Public Law 96-193 also directs the FAA to identify land uses which are "normally compatible" with various levels of noise from aircraft operations. Because of the size and complexity of many major hub airports and their operations, FAR Part 150 identifies a large number of land uses and their attendant noise levels. However, since the operations of most heliports and helistops tend to be much simpler and the impacts more restricted in area, Part 150 does not apply to heliports/helistops not located on airport property. Instead, the FAA recommends exterior noise criteria for individual heliports based on the types of surrounding land uses. These recommended noise levels are included in Table 6. Because of the adjoining residential areas to the south and west, the Harbor-UCLA Medical Center is considered to be an urban residential area.

TABLE 6
NORMALLY COMPATIBLE COMMUNITY SOUND LEVELS

Type of Area	$Leq_{(24)}$
Residential	
Suburban	57
Urban	67
City	72
Commercial	72
Industrial	77

$Leq_{(2.4)}$: Equivalent noise level (Leq) value that is representative of the noise level obtained over 24 hours.
Source: Noise Study, Syntececology (March 2005).

The maximum recommended cumulative sound level ($Leq_{(24)}$) from the operations of helicopters at any new site should not exceed the ambient noise already present in the community at the site of the proposed helistop. In other words, the $Leq_{(24)}$ should not exceed the values recommended in Table 6, or the locally measured ambient noise level.

Existing Noise Levels

Field Measurements

The project site is located at the existing Harbor-UCLA Medical Center in an unincorporated area of Los Angeles County. The project is to be located north of 220th Street, south of Carson Street, east of Normandie Avenue, and west of Vermont Avenue. Both single and multi-family residential uses are located to the south along 220th Street. Single-family units are also located to the west across Normandie Avenue. A mobile home park is located east of the medical center along Vermont Avenue. Other residential uses and transient lodging are also located along Vermont Avenue. The area to the north across Carson Street includes commercial uses.

To ascertain the existing noise at and adjacent to the project site, field monitoring was conducted on February 20, 2002. The field survey noted that noise within the proposed project area is generally characterized by vehicle traffic.

Noise monitoring was performed using a Quest Technologies Model 2900 Type 2 Integrating/logging Sound Level Meter. The unit meets the American National

Standards Institute (ANSI) Standard S1.4-1983 for Type 2, International Electrotechnical Commission (IEC) Standard 651 - 1979 for Type 2, and IEC Standard 651 - 1979 for Type 2 sound level meters. The unit was calibrated at 9:50 a.m. using a Quest Technologies QC-10 calibrator immediately prior to the first set of readings. The calibration was then rechecked at 12:07 p.m. after the last reading and no meter "drift" was noted. The accuracy of the calibrator is maintained through a program established through the manufacturer and is traceable to the National Bureau of Standards. The unit meets the requirements of ANSI Standard S1.4-1984 and IEC Standard 942: 1988 for Class 1 equipment.

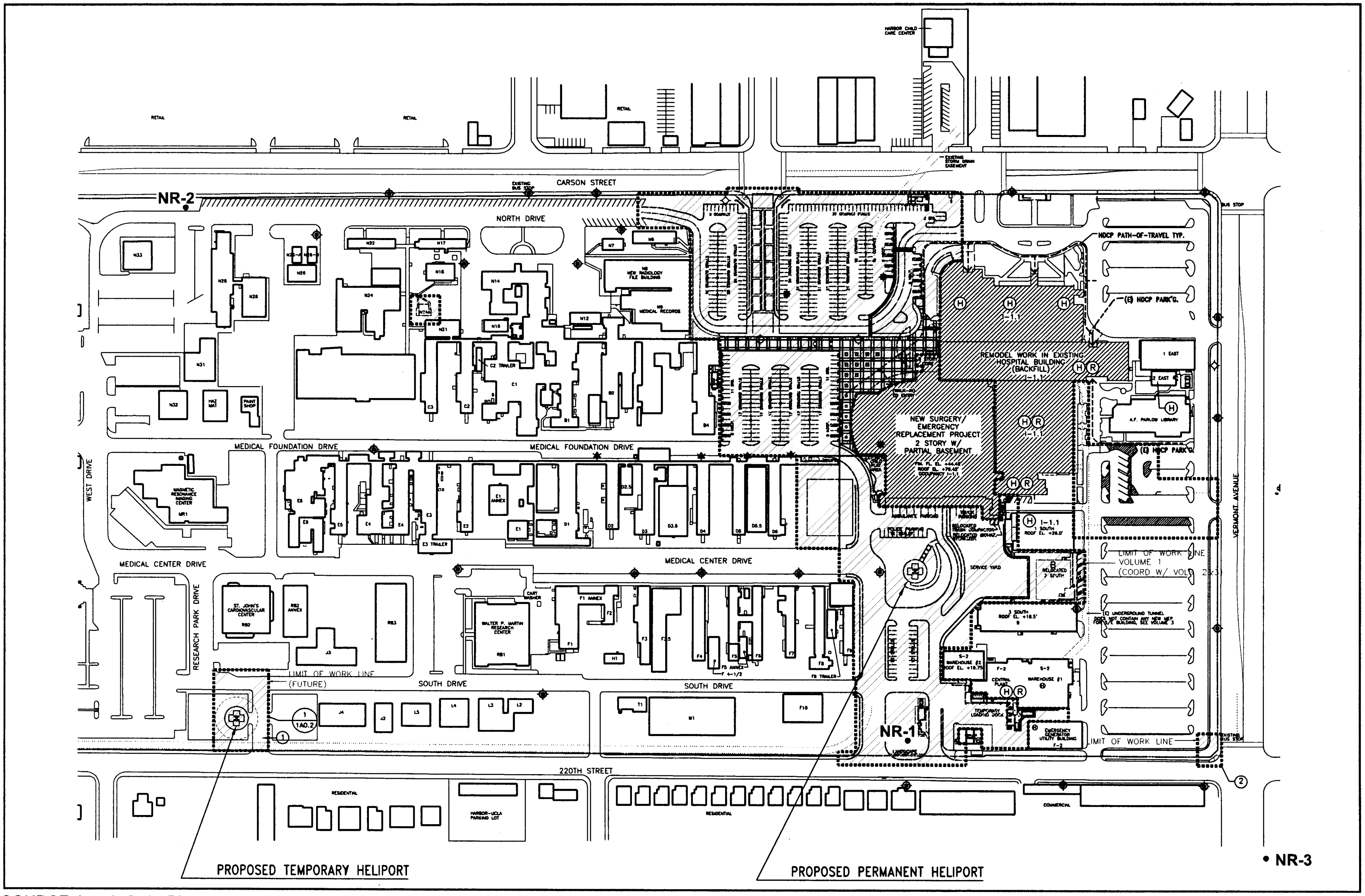
The study included three noise readings. The Leq, Lmin, Lmax, L_{02}, L_{08}, L_{25}, and L_{50} values were recorded. As discussed above, the Leq value is representative of the equivalent noise level or logarithmic average noise level obtained over the measurement period. The Lmin and Lmax represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second. The L_{02}, L_{08}, L_{25}, and L_{50} represent the values that are exceeded 1, 5, 15, and 30 minutes per hour if the readings were extrapolated out to an hour's duration. All readings were supplemented with simultaneous vehicle counts. These counts were obtained for modeling purposes (discussed below). Monitoring locations are shown in Exhibit 7 and the readings are included in Table 7. Each reading is summarized below.

TABLE 7
NOISE LEVEL MEASUREMENTS[1]

Monitoring Location	Leq (dBA)	L_{02} (dBA)	L_{08} (dBA)	L_{25} (dBA)	L_{50} (dBA)	Lmin (dBA)	Lmax (dBA)
NR-1	59.8	67.9	64.3	59.8	56.0	48.1	73.5
NR-2	65.5	71.8	69.3	66.7	63.0	51.6	78.2
NR-3	65.6	72.8	69.4	66.0	62.5	51.2	81.6

[1] The Leq represents the equivalent sound level and is the numeric value of a constant level that over the given period of time transmits the same amount of acoustic energy as the actual time-varying sound level. The L_{02}, L_{08}, L_{25}, and L_{50} are the levels that are exceeded 2, 8, 25, and 50 percent of the time, respectively. Alternatively, these values represent the noise level that would be exceeded for 1, 5, 15, and 30 minutes during a 1-hour period. The Lmin and Lmax represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second.
Source: Noise Study Syntececology 2005.

NR-1 This reading was obtained on-site along 220th Street just west of the second entrance from the east. This placed the meter across from the single-family residential units located along the south side of 220th Street. The meter was placed at a distance of 50 feet north of the center of travel of northernmost, westbound lane. The meter was also approximately 12.5 feet west of the Medical Center Driveway. The 15-minute reading began at 10:03 a.m. Background noise included vehicles on both 220th Street and those pulling



SOURCE: Leo A. Daly, Planning and Architectural Engineering, April 2005.

NORTH

NOT TO SCALE

Legend

▪▪▪▪▪ Project Site

Exhibit 7
Noise Monitoring Locations

both into and out of the parking lot. Traffic within the lot, the hum of the hospital's cooling towers (approximately 75 feet to the east) as well as aircraft overflights, including one helicopter were also notable. Eastbound traffic along 220th Street included 36 autos and one heavy truck. Westbound traffic included 32 automobiles. The road is posted at 30 mph. Additionally, 13 autos pulled into the lot passing within approximately 46 feet of the meter. Traffic leaving the lot, including 14 autos and two medium trucks passed the meter at a distance of about 25 feet.

NR-2 To aid in determining the vehicle ratio on the adjoining routes, this reading was obtained on-site along Carson Street. To find an area where a representative traffic reading could be obtained, this reading was obtained near the west end of the facility parking. Specifically, the meter was placed 50 feet south of the centerline of the near, eastbound lane and approximately 530 feet east of Normandie Avenue. A 15-minute reading was obtained from 10:37 a.m. Traffic included 209 autos, 11 medium trucks, and two heavy trucks proceeding eastbound. Westbound traffic included 245 autos, six medium trucks, and two heavy trucks. Additionally, 23 autos and one medium truck in the parking lot were observed to pass within about 18 feet behind the meter. Other sources of ambient noise included aircraft overflights, including two helicopters, and a car alarm sounding in the lot.

NR-3 This reading was obtained in the visitor parking area of the condominium development located along the east side of Vermont Avenue approximately 220 feet north of 223rd Street. The site would be representative of the various land uses located along Vermont. The meter was located at a distance of 50 feet east of the centerline of the near, northbound lane. The 15-minute measurement was obtained from 11:33 a.m. Northbound traffic during this period included 108 autos, three medium trucks, and two heavy trucks. Southbound traffic included 128 automobiles, seven medium trucks, and three heavy trucks. Additionally, six autos were observed to pass the meter in the parking lot at a distance of about 10 feet. Other sources of noise included trucks traveling along 223rd Street to the south.

Modeling of Observed Field Data

Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system. Reducing the average motor vehicle speed reduces the noise exposure of receptors adjacent to the road. Each reduction of 5 mph reduces noise by 1 to 2 dBA.

The Caltrans Sound32 version of the Federal Highway Administration traffic noise prediction model (Sound32 – Release 07/30/91) was used to evaluate traffic-related noise conditions in the vicinity of the project site. The model predicts 1-hour Leq noise levels and an attenuation factor has been applied to provide the CNEL noise levels. These latter values were used in assessing potential mobile-source impacts from the proposed facility on local receptors.

The model uses various parameters including the traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels. Sound32 modeling was prepared for the number of vehicles and logistics observed during the field readings. The results of this analysis are included in Table 8 demonstrating the model's applicability. When one considers extraneous noise that was not created by vehicles, soft site modeling would appear be more representative of local conditions. The slight discrepancy for soft site modeling with reading NR-1 may be due in part the vehicles exiting the lot that were observed to idle near the meter until they were able to merge into traffic.

TABLE 8
NOISE LEVEL MEASUREMENTS VERSUS PREDICTED MODEL RESULTS[1]

Monitoring Location	Measured Leq (dBA)	Modeled Leq (dBA)	Difference (dBA)
NR-1 (Soft Site)	59.8	58.6	1.2
NR-1 (Hard Site)	59.8	59.8	0.0
NR-2 (Soft Site)	65.5	65.9	0.4
NR-2 (Hard Site)	65.5	67.5	2.0
NR-3 (Soft Site)	65.6	64.9	0.7
NR-3 (Hard Site)	65.6	66.6	1.0

[1] NR-1, -2, and -3 is based on an posted speeds of 30, 35, and 40 mph, respectively.
A-weighted decibel scale (dBA).
Source: Noise Study, Syntececology (March 2005).

<u>Modeling of Existing Traffic Volumes</u>

In order to assess the potential for mobile-source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. Average daily traffic (ADT) volumes were based on the existing daily traffic volumes provided by Kaku Associates. To determine the CNEL noise level produced by this traffic, the percentage contribution from each hour of traffic was determined from a Los Angeles County, year 2005 run of the California Air Resources Board (CARB) EMFAC2002 computer model (BURDEN2002 module) distributed by the California Air Resources Board. The model predicts the volume of vehicles and miles generated for each of the 24 hours of the day. The ratio of each hour of traffic to the total daily traffic was then calculated from the model data. Traffic between the hours of 7:00 p.m. and 10:00 p.m. was assigned a 5-dBA penalty whereas the traffic predicted between 10:00 p.m. and 7:00 a.m. was assigned a 10-dBA penalty. The resultant noise associated with each hour was then logarithmically summed and averaged so that a correction factor could be ascertained and applied to the entire volume of traffic as if it were to occur in a 1-hour period. Under these premises, this CNEL value is 10.2 dBA less than the model results that are predicted if the entirety of the ADT volume were modeled to occur in a 1-hour period. As such, the CNEL can be represented by modeling the ADT as if it were to occur in a 1-hour period and subtracting 10.2 dBA from the resultant value.

For the purposes of this analysis, the ratio of automobiles, medium trucks, and heavy trucks is as averaged from the vehicle counts observed in the field study and includes 95.11 percent automobiles, 3.64 percent medium trucks, and 1.25 percent heavy trucks. Vehicle speeds are as posted. Table 9 presents the projected noise levels along site access roads in the project area as well as the distances to the 70, 65, and 60 dBA CNEL noise contours as based on soft site modeling.

TABLE 9
EXISTING NOISE LEVELS ALONG SITE ACCESS ROADS

Location	ADT	Speed (mph)	CNEL[1] (dBA @ 50 feet)	Distance to 70 dBA CNEL (feet)	Distance to 65 dBA CNEL (feet)	Distance to 60 dBA CNEL (feet)
Carson Street						
Normandie - Berendo	38,700	35	71.1	59	128	275
Berendo - Vermont	41,200	35	71.4	62	134	288
Vermont—I-110	45,100	35	71.8	79	171	368
Vermont Avenue						
S/O Carson	20,000	40	69.6	<50	101	218

[1] All values rounded off to the nearest decibel.
Average daily traffic (ADT).
A-weighted decibel scale (dBA).
Community noise equivalent level (CNEL).
Source: Noise Study, Syntececology, March 2005

Thresholds of Significance

Noise impacts can be broken down into three categories. The first is "audible" impacts, which refers to increases in noise level that are perceptible to humans. Audible increases in noise levels generally refer to a change of 3 dBA or more since this level has been found to be barely perceptible in exterior environments. The second category, "potentially audible," refers to a change in noise level between 1 and 3 dBA. This range of noise levels was found to be noticeable to sensitive people in laboratory environments. The last category includes changes in noise level of less than 1 dBA that are typically "inaudible" to the human ear except under quiet conditions in controlled environments. Only "audible" changes in noise level are considered potentially significant.

For stationary sources, the applicable noise standards include criteria established by local as well as any State regulations applicable to the proposed project. Mobile-source noise (i.e., vehicle noise) is preempted from local regulation. Here an impact is considered significant if the project would create an audible increase (i.e., 3 dBA CNEL) in the ambient noise.

Standard Conditions and Uniform Codes

All projects constructed in the County of Los Angeles are subject to standard conditions set forth in the Municipal Code. Compliance with these provisions is mandatory and as such, does not constitute mitigation under CEQA. Conditions specific to noise are included below:

- Section 12.08.570 A which exempts noise associated with emergency work,

- Section 12.08.570 B which exempts noise associated with warning devices, and

- Section 12.08.570 D which exempts construction activities conducted within the time restrictions set forth in the Code, and

- Section 12.08.570 H which exempts maintenance and construction activities anytime on public right-of-way, and those situations which may occur on private real property deemed necessary to serve the best interests of the public's health and well being.

<u>Long-Term Operational Impacts</u>

Long-term noise impacts are those associated with mobile sources. Impacts on existing land uses may be produced from the addition of project-generated vehicle traffic. Additionally, the project could result in a significant noise impact if it sited a sensitive land use in an incompatible area.

Off-site Project-Generated Impacts

The project would generate as many as 246 new vehicle trips per day. Noise modeling was conducted using the Caltrans Sound32 Noise Model (CALVENO version) to determine if the project would generate a volume of traffic sufficient to raise ambient noise by an significant level. ADT volumes are as provided by Kaku Associates. Vehicle mix, day/evening/night split, and average speeds are as indicated in the analysis of the existing noise levels. As a worst case scenario, this analysis considers the impact of the cumulative, with project, scenario and compares these noise levels with the existing ambient noise levels. Results of the modeling effort are included in Table 10. Note that modeling indicates that the noise increase could be as much as 0.3 dBA CNEL. This value is less than audible and well under the 3-dBA criterion level. As such, the impact is less than significant. Because the cumulative, with project, analysis shows less than a significant impact, it is not necessary to determine the project's contribution to the existing noise which would be even smaller than the 0.3 dBA increase noted in this analysis.

TABLE 10
EXISTING VERSUS CUMULATIVE, WITH PROJECT, NOISE LEVELS ALONG SITE ACCESS ROADS

Location	Existing ADT	Existing CNEL (dBA @ 50 feet)	Cumulative, With Project ADT	Cumulative CNEL (dBA @ 50 feet)	Difference (dBA @ 50 feet)
Carson Street					
Normandie - Berendo	38,700	71.1	40,900	71.4	0.3
Berendo - Vermont	41,200	71.4	43,700	71.7	0.3
Vermont—I-110	45,100	71.8	48,000	72.1	0.3
Vermont					
S/O Carson	20,000	69.6	21,100	69.8	0.2

[1] All values rounded off to the nearest decibel.
Average daily traffic (ADT).
A-weighted decibel scale (dBA).
Community noise equivalent level (CNEL).
Source: Noise Study, Syntececology, March 2005

Helistop Noise

The project would result in modifications to the existing helistop. The pad would be located 45 feet northeast of its original position, and would be raised by 14 feet. As helicopters ascend and descend vertically, moving the pad by 45 feet and raising the pad by 14 feet would not substantially alter its associated noise characteristics on existing residents or hospital staff and patients from those existing at this time. At its nearest point, the pad is over 400 feet from the nearest residents located to the south across 220th Street. As operation of the temporary helistop (the center of the helipad is located approximately 125 feet from the nearest residents) would not create a significant impact, noise levels associated with the permanent pad would be even lower by virtue of the extended distance from residents compared to the temporary helistop and also would be less than significant. Furthermore, the existing residents are located closer to the proposed temporary helistop compared to the existing hospital uses. Therefore, noise levels from the proposed helistop would not significantly affect existing hospital staff and patients. In summary, helicopter noise at the temporary and permanent helistops would result in a less than significant impact on the surrounding residents and hospital staff and patients.

On-site Impacts

An impact may also be significant if the project sites a land use in an incompatible area due to excessive noise. The County sets a maximum desirable daytime level of 60 dBA for commercial land uses and a nighttime limitation of 55 dBA. These values are based on the hourly Leq noise descriptor.

To determine if a potentially significant impact would occur at the proposed facility, Sound32 noise modeling was performed for the cumulative with project traffic volume along Carson Street. Peak hour volumes were determined from the intersection analysis provided by Kaku Associates. Because the p.m. peak hour predicts higher traffic volumes, with the greater percentage of this traffic proceeding eastbound (i.e., closer to the proposed facility), this peak hour was used to represent a reasonable worst-case scenario.

The model indicates that the resultant noise level at the proposed structure could be as high as 56.6 dBA Leq. The actual noise could be considerably less than this value which assumes a clear line-or-sight to the traffic in both directions. In reality, the existing hospital structures partially block this line-of-site and at least a portion of the traffic noise.

The predicted value is less than the County's 60 dBA daytime criterion for commercial land uses and is less than significant. The greatest level of noise generated during the night hours actually encompasses the 6:00 a.m. to 7:00 a.m. rush hour. The EMFAC2002 model distributed by the California Air Resources Board estimates that traffic volume during the evening peak hour (i.e., 5:00 p.m. to 6:00 p.m.) includes 2.12 times more vehicles than the 6:00 a.m. to 7:00 a.m. hour and p.m. peak hour noise levels are calculated to be 3.3 dBA higher than the 6:00 a.m. to 7:00 a.m. hour. As such, noise generated during the 6:00 a.m. to 7:00 a.m. hour is estimated at approximately 53.3 dBA Leq. This value is under the County's 55 dBA criterion and the impact is less than significant. All other night hours include lesser volumes of traffic with further reductions in noise and again, the impact is less than significant.

Short-Term, Construction-Related Impacts

Noise levels associated with construction activities would be higher than the ambient noise levels in the project area today, but would subside once construction of the proposed project is completed.

Two types of noise impacts could occur during the construction phase. First, the transport of workers and equipment to the construction site would incrementally increase noise levels along site access roadways. Even though there could be a relatively high single event noise exposure potential with passing trucks (a maximum noise level of 86 dBA at 50 feet), the increase in noise would be less than 1 dBA when averaged over a 24-hour period, and would therefore have a less than significant impact on noise receptors along the truck routes.

The second type of impact is related to noise generated by on-site construction operations and local residents and hospital patients could be subject to elevated noise levels due to the operation of this equipment. Construction activities are carried out in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow noise ranges to be categorized by work phase. Table 11 lists typical construction equipment noise levels recommended for noise impact assessment at a distance of 50 feet.

The grading and site preparation phase tends to create the highest noise levels, because the noisiest construction equipment is found in the earthmoving equipment category. This category includes excavating machinery (backfillers, bulldozers, draglines, front loaders, etc.) and earthmoving and compacting equipment (compactors, scrapers, graders, etc.) Typical operating cycles may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Noise levels at 50 feet from earthmoving equipment range from 73 to 96 dBA while Leq noise levels range up to about 89 dBA. The later construction of structures is somewhat reduced from these values and the physical presence of the structure may break up line-of-sight noise propagation.

TABLE 11
NOISE ASSOCIATED WITH TYPICAL CONSTRUCTION EQUIPMENT

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)	Suggested Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000-18,000 ft-lb/blow	81-96	93
Rock Drills	83-99	96
Jack Hammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	68-80	77
Dozers	85-90	88
Tractor	77-82	80
Front-End Loaders	86-90	88
Hydraulic Backhoe	81-90	86
Hydraulic Excavators	81-90	86
Graders	79-89	86
Air Compressors	76-86	86
Trucks	81-87	86

A-weighted decibel scale (dBA).
Source: Noise Control for Buildings and Manufacturing Plants, BBN 1987.

Residential units are located to the south across 220th Street, to the east across Vermont Avenue, and to the west across Normandie Avenue. Additionally, the hospital is considered a sensitive land use. When one considers the replacement of the paved area, the nearest receptors located across 220th Street are approximately 70 feet from the nearest construction effort. Based on an Leq value of 89 dBA as measured at a distance of 50 feet, resultant noise levels could be on the order of 86 dBA Leq at these structures. The nearest construction effort associated with the temporary helistop is approximately 100 feet from the nearest residents located along the south side of 220th Street and noise from this construction is estimated at about 83 dBA Leq. The nearest receptors located in the trailer park across Vermont are located approximately 450 feet from the nearest site construction. Again using an Leq of 89 dBA for construction, the resultant noise level is estimated at 70 dBA Leq. The residents across Normandie are located in excess of 1,500 feet of construction of the facility and parking area and noise from this construction would be under 60 dBA Leq. Construction of the helistop is in excess of 750 feet from these residents with the resultant noise level estimated at 65 dBA Leq.

These values reflect the maximum Leq noise levels anticipated at the receptors. However, during the vast majority of the construction period, noise levels at the receptors would be 30 to 40 dBA lower than the presented values due to lower power settings and sound attenuation effect provided by longer distances and partial blocking both from existing structures, and the proposed structure. This range of noise levels is considered acceptable during daytime hours. Ambient noise levels in the project vicinity would increase during construction phase, but would drop considerably after construction of the proposed facility is completed.

The County recognizes that the control of construction noise is difficult at best and provides exemption for this type of noise when the work is performed "to serve the best interests of the public's health and well being." To further reduce the less than significant construction noise impacts, County Staff should require that the following project commitments be followed to the extent feasible.

- All construction equipment shall be properly maintained and tuned to minimize noise emissions,

- All equipment shall be fitted with properly operating mufflers and air intake silencers no less efficient than those originally installed,

- All stationary noise sources (e.g., generators and compressors) shall be located as far from the adjacent residential receptor and sensitive hospital uses as is feasible,

- Normal construction working hours will be restricted to the hours of 7:00 a.m. to 5:00 p.m. on weekdays. Work outside of these hours will have to be approved by the County of Los Angeles Department of Public Works. These days and hours shall also apply to any servicing of equipment and to the delivery of materials to or from the site, and

- Construction shall be subject to any and all provisions set forth by the County of Los Angeles Planning Department.

Implementation of these commitments will ensure that any impacts remain less than significant.

Another potential impact of construction is that of vibration. Groundborne vibration is typically associated with blasting operations and potentially, the use of pile drivers, neither of which would be necessary for the construction (or operation) of the project. As such, no excessive groundborne vibrations would be created by the proposed project and any impact would be less than significant.

Temporary Helistop Operations

Another potential short-term impact is from the noise associated with the temporary relocation of the helistop to the southwestern portion of the premises. Following is a summary of the temporary helistop study for the proposed project. This study is located in Appendix C.

The only applicable noise criterion for helistop operations is the City and County planning exterior noise standard of 65 CNEL. The FAA also recommends this standard. Note that, strictly defined; CNEL is an annual average noise level. In this case, the CNEL for one day in which a nighttime operation occurs will be 20 dB higher than the annual average CNEL. Both levels will be examined.

Single event noise levels are also an important gauge of the potential noise impacts from the temporary helistop. However, no thresholds have been established to determine what levels result in a significant impact. The noise level of the event, the frequency of occurrence and the time of occurrence all contribute to annoyance and sleep disturbance. This is why the CNEL metric is typically used to assess impacts because it takes all of these factors into account. However, in this case where there will be relatively infrequent events of substantial noise levels the potential impacts of these events must also be examined. However, determining the significance of these events is much more difficult and must also take into account the frequency and time of occurrence as well as the noise levels during the events. Noise events that cause sleep disturbance on a regular basis should be considered as a significant impact.

Helicopters visiting the helistop include air ambulance services, the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department. Many different helicopter types could visit the helistop. The two loudest helicopters potentially visiting the site are the Sheriff Department's Sikorsky H-3 "Sea King" and the Fire Department's Sikorsky UH-60 (similar to a "Blackhawk"). The noise impacts will be analyzed using these two helicopters and the assumption that they are each responsible for half of the operations at the helistop. Air ambulance services typically use smaller helicopters that do not generate as much noise, therefore this is a worst-case assumption.

The methodology used to determine helicopter noise levels is consistent with that presented in the document "Helicopter Noise Exposure Curves for Use In Environmental Impact Assessment" (published by the Federal Aviation Information, by J. Steven Newman, Edward J Rickley and Tyrone L. Bland, November 1982 Report No. FAA-EE-82-16). This document is a precursor to the noise calculation methodology used in the FAA's Heliport Noise Model (HNM). Source noise levels for the two helicopter types were taken from this document and from the HNM source noise level database. The higher noise level from either source was used. Note that neither the H-3 nor the UH-60 are specifically in the document or the HNM database. The FAA has established a list of equivalent helicopters in terms of noise generation. The H-3 is equivalent to a Sikorsky S-61 and the UH-60 is equivalent to the Sikorsky S-70. Noise data for the S-61 was used to determine noise levels for the H-3 and noise levels from the S-70 were used to determine noise levels from the UH-60.

The Helicopter Noise Exposure Curves document and the HNM database contains SEL noise levels at specific distances for approach, level flyover and departure to the left and right of the flight path as well as directly underneath the flight path. The worst-case (highest) directional (left, right or center) noise level at 200 feet was used to calculate the SEL noise level for approach to and departure from the heliport for each helicopter type. These levels were adjusted for distance to determine the noise level at the specific receptors. This distance adjustment includes both an adjustment for how sound drops off over distance as well as the duration of a noise event relative to the standard distance. The distance used was the shortest difference from the flight path to the receptor.

The Sheriff's department was consulted regarding expected flight paths to and from the heliport. The Sheriff's department pilot indicated that in clear weather they would approach the heliport from an altitude of approximately 1,500 feet above ground level and begin their descent approximately 1/4 mile from the helistop. The decent would be approximately linear (i.e. a straight line from a point 1/4 mile from the helistop and 1,500 feet high to the helistop). The pilot noted that during cloudy conditions they could start their descent at an altitude of 500 feet above ground. The pilot indicated that during a departure they would climb from the pad at a rate between 700 and 1,200 feet per minute at a speed of 60 to 80 knots. Information from the medical center indicates that the helicopters will approach and depart the helistop from the east and the west. This information was used to determine the shortest distance from the flight paths to the receptor locations.

As the helicopters approach the ground on arrival and as they take-off they are essentially hovering. The Helicopter Noise Exposure Curves Document and the HNM database contain maximum noise levels for helicopters hovering near the ground at a distance of 200 feet from the helicopter. The highest noise level for either of these sources was used to determine the maximum noise levels during this portion of the operation. The maximum noise level was adjusted based on the distance from the heliport to the receptor. This maximum noise level is essentially constant. To determine the contribution to the total SEL of an event from this portion of the operation, it was assumed that this hover mode lasted 3 seconds. This time is used in the standard flight profiles in the HNM model.

After the helicopter touches down or before it takes off there is a period of time where the engines and blades will operate in essentially an idle mode just before the engines are shut down or after they are started. The Helicopter Noise Exposure Curves document indicates that this idling mode produces noise levels approximately 12 dB lower than during hover. The standard flight profiles in HNM assume that the helicopter operates in this mode for 30 seconds after touch-down and before take-off. This duration was used to determine the contribution to the total SEL from a landing or take-off.

To determine the total SEL from an approach event the approach SEL, hover SEL and idle SEL were added together. Similarly to determine the total SEL from a departure event the idle SEL, hover SEL and departure were added together. The maximum noise level was determined from the higher of the hover maximum noise level or 10 dB lower than the approach or departure SEL. Maximum noise levels from aircraft approaches or departures are typically 10 dB lower than the SEL levels. CNEL levels were determined from the Calculated SEL levels and the time of operations discussed below.

Operations at the helistop are not scheduled and occur when required by an emergency medical situation. Logs of helicopter operations for three months in 2001 and the first month of 2002 were provided by the medical center and used in the temporary helistop study for the project (see Appendix C). The data primarily consisted of the time which the Safety Police Dispatcher received a call that a helicopter was in route. Typically the helicopters land 15 minutes after this time and depart less than 1 hour after arriving. For a few of the events the actual landing and departure times were recorded. This data was used when available. Otherwise the arrival and departure times were calculated using the typical times from the initial call.

The operations are summarized in Tables 14 and 15 below. Table 12 presents the number of arrivals by time of day used to calculate CNEL for each of the four months of data. Table 13 presents the number of departures. The average and maximum number of monthly operations is also presented. It is not expected that operations will change significantly in the future.

TABLE 12
RECENT ARRIVAL HISTORY AT HELISTOP

Month	Day (7am to 7 pm)	Evening (7pm to 10 pm)	Nighttime (10 pm to 7 am)	Monthly
October, 2001	5	1	5	11
November, 2001	8	0	0	8
December, 2001	6	0	2	8
January, 2001	6	3	2	11
Average	6.25	1.00	2.25	9.5
Maximum	8	3	5	11
Source: Noise Assessment for Temporary Helistop, Mestre Greve Associates (2002).				

TABLE 13
RECENT DEPARTURE HISTORY AT HELISTOP

Month	Day (7am to 7 pm)	Evening (7pm to 10 pm)	Nighttime (10 pm to 7 am)	Monthly
October, 2001	5	0	6	11
November, 2001	7	1	0	8
December, 2002	5	2	1	8
January, 2002	7	2	2	11
Average	6.00	1.25	2.25	9.5
Maximum	7	2	6	11
Source: Noise Assessment for Temporary Helistop, Mestre Greve Associates (2002).				

Tables 12 and 13 show that most operations occur during the daytime hours. This data was used to calculate the annual average CNEL noise levels presented below.

On average there are only 2.25 arrivals and departures each month during the nighttime hours. The data shows that on average there are only 1.5 arrivals and departures each month between the hours of 11 pm and 6 am.

More recent helistop arrivals and departures were reviewed for June 2004 through November 2004 (see Appendix C). Based on a review of the average arrivals during the day, evening, and nighttime periods, the daytime data from 2004 is greater than the 2001/2002 daytime data by 1.42 arrivals; however, the evening and nighttime arrivals are less in the 2004 data. Based on a review of the average departures during the day, evening, and nighttime periods, the daytime data from 2004 is greater than the 2001/2002 daytime data by 1.0 departures; however, the evening and nighttime arrivals are less in the 2004 data.

The helistop noise level impacts were based on the average arrivals and departures each month between the hours of 11 pm and 6 pm which is within the nighttime period. There were 1.5 arrivals and departures per month during this time period during 2001/2002. This data (1.5 arrivals and departures) was a subset of the 2.25 arrivals and departures that occurred between 10 pm and 7 pm. Based on an assumption that there would still be arrivals and departures within the nighttime period, but not between the hours of 11 pm and 6 am, the 1.67 arrivals and departures within the nighttime period (10 pm and 7 pm) in 2004 is expected to be less for the arrivals and departures between 11 pm and 6 am. Based on the data for 2001/2002 and the data for 2004 as well as the above assumption, the 1.5 average arrivals and departures that were used in the noise analysis is still valid.

Helicopter Noise Levels

Noise levels were calculated using the methodology presented above at two locations, the homes nearest the proposed temporary helistop location, Site 1, and the nearest homes directly under the approach and departure paths, Site 2 (see Appendix C for location).

Site 2 is located approximately 380 feet west of the helistop. Noise levels at homes 380 feet to the east of the helistop would experience noise levels approximately the same as at Site 2. Homes along 220th Street between Site 2 and the helistop will experience noise levels between those at Site 1 and Site 2. Similarly homes to the east of the helistop up to a distance of 380 feet from the helistop will experience noise levels between those at Site 1 and Site 2. Homes located 380 feet south of the helistop will experience noise levels somewhat lower than Site 2 due to increased distance from the flight tracks and intervening buildings that will reduce noise levels as the helicopters approach the ground. Noise levels presented in Table 14 represent outdoor noise levels. Indoor noise levels will be approximately 12 dB lower in a home with open windows and 20 dB lower in a home with closed windows.

TABLE 14
ARRIVAL AND DEPARTURE NOISE LEVELS AT REPRESENTATIVE SITES (dBA)

	Arrival		Departure	
Location	**SEL**	**Lmax**	**SEL**	**Lmax**
Site 1				
Helicopter: UH-60 (S61)	110	103	110	103
Helicopter: H-3 (S70)	107	99	106	99
Site 2				
Helicopter: UH-60 (S61)	103	91	102	91
Helicopter: H-3 (S70)	102	91	97	85
Source: Noise Assessment for Temporary Helistop, Mestre Greve Associates (2002).				

Table 14 shows that Site 1 will experience maximum noise levels of up to 103 dBA during arrivals and departures and SEL levels of up to 110 dBA. Remember that the SEL represents the total noise energy during the event and the maximum noise level represents the highest noise level at any one time during an event. Helicopter arrival and departure events would not be expected to be audible for more than two minutes. Site 2 is projected to experience maximum levels of up to 91 dBA during arrivals and departures and SEL levels up to 103 dBA.

Maximum indoor SEL levels at Site 1 are projected to be 91 dBA with open windows and 83 dBA with closed windows. Based on the 1997 FICAN sleep disturbance curves presented in Appendix C, approximately 10 percent of persons near Site 1 would be expected to be awakened with closed windows during a helicopter event and approximately 12 percent of persons would be expected to be awakened with open windows.

Maximum indoor SEL levels at Site 2 are projected to be 79 dBA with open windows and 71 dBA with closed windows. Based on the 1997 FICAN sleep disturbance curves presented in Exhibit 3 approximately 6 percent of persons near Site 2 would be expected to be awakened with closed windows during a helicopter event and approximately 9 percent of persons would be expected to be awakened with open windows.

As discussed above, CNEL is defined as an annual average noise level. In situations such as this were there are relatively few operations (9.5 a month) on average and even fewer during the nighttime hours (2.25 per moth average) the CNEL for a single day can vary greatly. On a day with no operations the CNEL from helicopter operations will be 0. The second CNEL level presented in Table 6 is the CNEL level for a day with one nighttime operation. This is 20 dB greater than the actual annual average CNEL level. Note that the CNEL on a day with one operation during the daytime would be 10 dB lower than the second CNEL column in Table 15.

TABLE 15
CNEL FROM HELICOPTER OPERATIONS AT REPRESENTATIVE SITES (dBA)

Location	CNEL[1]	CNEL[2]
Site 1	57	77
Site 2	50	70

[1] Annual Average
[2] On Day With 1 Nighttime Operation
Source: Noise Assessment for Temporary Helistop, Mestre Greve Associates (2002).

The CNEL level at the residential areas near the temporary helistop will not exceed 65 CNEL. The CNEL level as defined (i.e., an annual average) from helicopter noise is projected to be 57 dB at the nearest residences (Site 1). Even with open windows the indoor CNEL will be 45 dB.

The daily CNEL level at the nearest residences (Site 1) will exceed 65 CNEL on any day that there is an operation at the helistop no matter what time the operation occurs. If the operation occurs during nighttime hours (10 p.m. to 7 a.m.) the daily CNEL will be 77 dB if the operation occurs during the day (7 a.m. to 7 p.m.) the level will be 67 CNEL. On a day where there is an operation during the evening (7 p.m. to 10 p.m.) the daily CNEL will be 72 dB.

At Site 2, the daily 65 CNEL will be exceeded only on a day where there is a nighttime operation. When there is only a daytime operation the daily CNEL will be 60 dB. When there is only an evening operation the daily CNEL will be at the 65 dB standard.

Individual helicopter events will result in substantial noise levels at the residences in the vicinity of the temporary helistop. Some people will be awakened during nighttime events. On average there will be 9.5 events per month and only 2.5 of these will occur during the nighttime hours as defined by CNEL. Only 1.5 events per month historically occur between the hours of 11 p.m. and 6 a.m. Due to the low number of nighttime operations (i.e., an average of 2.5 per month), the level of sleep disturbance is not considered significant.

Noise annoyance is very subjective and often more dependant on the source of the noise rather than the level of noise. Noise generated by sources perceived as for the public good are often found less annoying than noise generated by undesirable sources. This helistop will only be used for medical emergencies which are understood by all to be for the public good. Also contributing to the temporary helistop not resulting in a significant impact is the fact that the helistop will be temporary. However, the two to three year period in which the temporary helistop will be used does represent a substantial time period.

In summary, the noise impacts from the temporary helistop are not considered significant for the following reasons:

- The annual CNEL levels will not exceed 65 dB.
- The nighttime operations (2.5 times per month on average) will not occur on a regular basis.
- The helistop will only be used for medical emergencies, which are generally understood to be for the public good and therefore are generally perceived to be less annoying.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

f) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact—e) and f). The project site is not within an airport land use plan and no public airports are in the project vicinity, and the project site is not within a departure or approach airport pattern. There are no private airstrips in the vicinity of the project site. Therefore, project implementation will not expose students, faculty or support staff to excessive noise in relation to airport use.

12. POPULATION AND HOUSING—Would the project:

a) *Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

No Impact—a), b) and c). The purpose of the proposed project is to optimize operational efficiency and therefore would not generate a substantial amount of job opportunities or induce growth in the area. The project would not involve the construction of dwelling units and would not substantially alter the location, distribution, density, or growth rate of the human population. The project site is located within the perimeter of the existing Harbor-UCLA Medical Center and implementation of the proposed project would not require the removal of any existing dwelling units. Medical center employees and visitors are not expected to create a demand for additional housing in the area. Therefore, no impacts on population growth are anticipated, and no mitigation measures are required.

13. PUBLIC SERVICES

a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services?*

Fire protection?

Less Than Significant Impact With Mitigation. Fire protection and paramedic services for the Harbor-UCLA Medical Center are provided by the Los Angeles County Fire Department. Los Angeles County Fire Station No. 36, located at 127 West 223rd Street, Carson, California 90745, is the jurisdictional station for the Medical Center. This station is located approximately 1.25 miles south of the project site, or approximately 4 minutes and 25 seconds from the Medical Center. Two 4-person engine companies and a 2-person paramedic squad are deployed from Fire Station No. 36. In addition, additional County Fire Department emergency units would respond depending on need and availability (See Appendix D).

In a formal response from the Los Angeles County Fire Department regarding this project, Acting Chief, David R. Leininger stated that "fire protection serving the area appears to be adequate for the existing development/land use; however, each additional development creates greater demands on existing resources. Consequently, the impact that this project will have on the adequacy of the Fire Department's level of service remains uncertain." (see Appendix D).

Given that the proposed project is a County project, the Los Angeles County Fire Department will increase manpower and equipment, as necessary, to serve the its Harbor-UCLA Medical Center. Additionally, the proposed structures will be constructed in accordance with applicable County fire codes. Implementation of the mitigation measure identified below will reduce potential impacts to fire services to less than significant.

Police protection?

Less Than Significant Impact. Police protection services for the Harbor-UCLA Medical Center are provided by the Los Angeles County Office of Public Safety (LACOPS). The LACOPS is a specialized law enforcement agency, which formed as a result of the January 1, 1998, consolidation of the former Park Police from the Departments of Parks and Recreation and the Safety Police from the Departments of Health Services and Internal Services. LACOPS employs 580 sworn personnel and 144 civilian personnel.

LACOPS provides police services for the patrons, employees, and properties of County departments who contract for such services and for County parks and recreational facilities. LACOPS is a Peace Officers' Standards Training (P.O.S.T.) certified agency and its officers are full time peace officers under the California Penal Code, Section 830.31. LACOPS provides police protection services for Los Angeles County facilities, hospitals, and parks.

The Facilities Services Bureau of LACOPS is primarily responsible for vehicle, bicycle and foot patrol police services within and around County facilities, including the Department of Mental Health, Probation and Public Social Services which are the largest of their kind in the country. They also provide protection for the downtown Civic Center, Hall of Administration, and the Board of Supervisors.

The Health Services Bureau of LACOPS provides police services to over 40 County hospitals, clinics and public health facilities, including:

- Harbor-UCLA Medical Center
- King/Drew Medical Center
- LAC/USC Medical Center
- Olive View Medical Center
- Rancho Los Amigos National Rehabilitation Center

The Parks Services Bureau of LACOPS is responsible for providing police services to more than 126 regional parks, nature centers, lakes, natural areas, golf courses, neighborhood parks, and nature trails.

The Administration Services Bureau of LACOPS is responsible for general administrative functions, particularly those that service all intra-agency personnel, including human resources, procurement, fleet and fiscal operations. This bureau is also responsible for administering special programs, including emergency management, recruitment, and the chaplain and peer counseling services.

LACOPS maintains a police station on the Harbor-UCLA Medical Center Campus and provides 24-hour patrolling of the Medical Center. Officers assigned to the Harbor-UCLA Station are dispatched to all areas of the Medical Center as well of other County facilities in the vicinity of the project. Due to the existing police presence at the Medical Center, 24-hour service on the campus, and planned upgrades, such as increased closed circuit television monitoring, installation of X-ray machines for weapons screening at the front entrance of the hospital, and parking access controls, the project is not expected to significantly impact the level or quality of services provided by this police protection agency. LACOPS will be made aware of any changes to the Emergency Management Plan, both during project construction and upon completion, which would affect its service.

Schools?

No Impact. Schools located within the general vicinity of the project, Meyler Elementary School (1123 West 223rd Street, Torrance), White Middle School (22102 South Figueroa Street, Carson), and Halldale Elementary School (21514 Halldale Avenue, Torrance), are not expected to experience a change in the level of public services they receive. Similarly, the project will not result in the need for additional schools or school facilities because the project does not directly include residences or generate children. Therefore, the project will not impact schools in the vicinity of the Medical Center.

Parks?

No Impact. The project will have no impact to parks in the vicinity of the Medical Center.

Other public facilities?

No Impact. Harbor-UCLA Medical Center is a Los Angeles County public hospital. Public services provided to the Medical Center are similar if not consistent with services provided to other public health facilities in Los Angeles County. It should be noted that the new Emergency Department and Surgery Pavilion will create nominal new full-time positions. Therefore, public services provided to other public facilities in the vicinity of the site are not expected to be impacted by the project.

<u>Mitigation Measure</u>

- Prior to the approval of plans and specifications, the Los Angeles County Fire Department shall determine if additional manpower and equipment is required to provide adequate fire services to the Harbor-UCLA Medical Center campus.

14. RECREATION—Would the project:

a) *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?*

No Impact—a) and b). The project site is located entirely within the highly developed medical center campus and is currently occupied by medical buildings and associated structures. There are no recreational facilities on the project site. The minimal increase in employment opportunities, in any, would not result in a measurable increase in local or community recreational resources. Therefore, this project would not result in any significant impacts to recreational facilities.

15. TRANSPORTATION/TRAFFIC—Would the project:

a) *Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?*

Less Than Significant Impact. Traffic conditions at intersections, especially during peak traffic periods, are a primary factor used to determine roadway performance. For this reason, assessments of traffic conditions and impacts usually focus on peak hour conditions at intersections. Operating conditions for roadway performance are typically described in terms of "level of service" (LOS), which is a qualitative measurement of how well or how poorly traffic is flowing at an identified intersection. The LOS is described with letter designations ranging from "A," representing the best operating conditions, to "F", representing the worst operating conditions. LOS D is typically considered to be the minimum acceptable level of service in urban areas. The County of Los Angeles Department of Public Works requires that the "Intersection Capacity Utilization" (ICU) method of intersection capacity analysis be used to determine the intersection volume to capacity (V/C) ratio and corresponding level of service for the turning movements and intersection characteristics at signalized intersections.

The County of Los Angeles Department of Public Works has established threshold criteria that are used to determine if a project has a significant traffic impact at a specific intersection. Under the County's guidelines, a project impact would be considered significant if the following conditions are met:

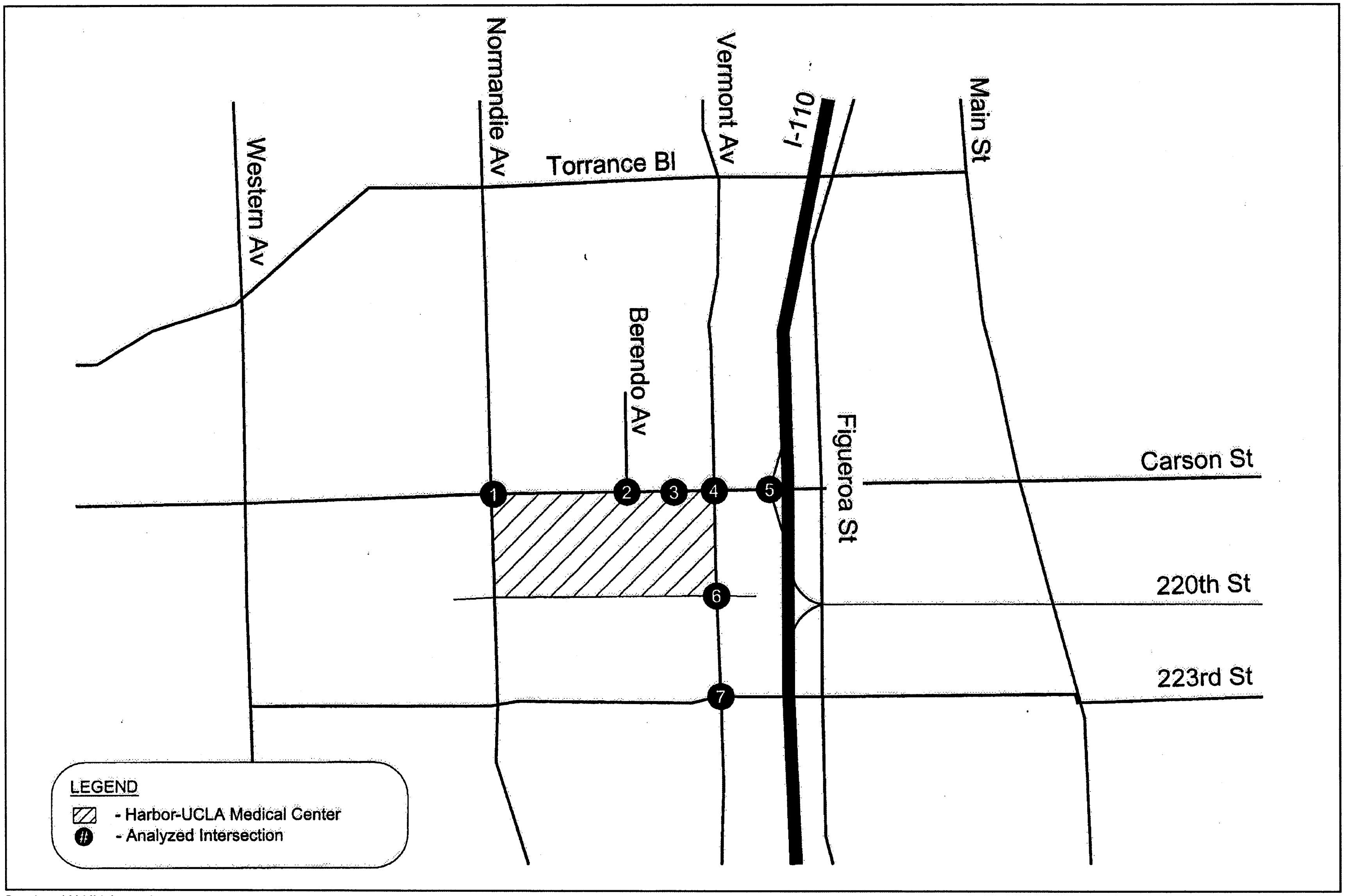
TABLE 16
INTERSECTION SIGNIFICANT IMPACT CRITERIA

Pre-project Intersection Condition		**Project-related Increase**
LOS	V/C Ratio	in V/C Ratio
C	0.71-0.80	0.04 or more
D	0.81-0.90	0.02 or more
E, F	0.91 or more	0.01 or more
Source: Traffic Study, Kaku Associates (2005).		

Kaku Associates conducted traffic counts for the Harbor-UCLA Medical Center in January 2005. The counts focused on the following seven intersections, which are illustrated in Exhibit 8:

The counts focused on the following seven intersections, which are illustrated in Exhibit 8:

1. Normandie Avenue & Carson Street
2. Berendo Avenue & Carson Street



Source: KAKU Associates, 2002.

NOT TO SCALE

Michael Brandman Associates

Exhibit 8
Traffic Study Area

3. Medical Center Driveway & Carson Street
4. Vermont Avenue & Carson Street
5. I-110 SB Ramps & Carson Street
6. Vermont Avenue & 220th Street
7. Vermont Avenue & 223rd Street

The existing LOS at four of the study intersections (Normandie/Carson, Berendo/Carson, Vermont/Carson, and Vermont/223rd) currently operate at poor levels of service (LOS E or F) during one or both peak hours. The Vermont/220th and Medical Center/Carson intersection operates at good levels of service (LOS C or better) during both the AM and PM peak hours (see Table 17).

TABLE 17
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	V/C Ratio	LOS
1. Normandie Ave. & Carson St.	AM PM	0.978 1.089	E F
2. Berendo Ave. & Carson St.	AM PM	**[a] **	F F
3. Medical Center Driveway & Carson St.	AM PM	0.807 0.807	D D
4. Vermont Ave. & Carson St.	AM PM	1.020 1.023	F F
5. I-110 SB Ramps & Carson St.	AM PM	0.896 0.916	D E
6. Vermont Ave. & 220th St.	AM PM	0.709 0.726	C C
7. Vermont Ave. & 223rd St.	AM PM	1.026 1.085	F F

[a] The intersection of Berendo Avenue & Carson Street is unsignalized in the Existing Plus Ambient conditions.
** Indicates oversaturated conditions. Delay cannot be calculated.
Source: Kaku Associates, 2005

Traffic impacts generated by the proposed project would include short-term impacts during the demolition and construction phases, and ongoing, long-term impacts throughout the operating life of the Harbor-UCLA Medical Center. Both short-term and long-term impacts are discussed below.

Short-Term (Construction Period) Impacts

Small, medium and large trucks, together with passenger size vehicles would travel to and from the project site during the demolition, grading site preparation and construction phases. The volume of such traffic would vary with the nature of the work underway, the size of the active work area and the size of the work crew involved. It is anticipated that the greatest amount of truck traffic would occur during the building construction phase, with a variety of material and machinery deliveries.

Material delivery would occur at distinct phases of building construction and would occasionally impact traffic, resulting in minor impacts to local traffic flow. Construction traffic typically occurs earlier than the "standard" peak hours for commuter traffic not associated with the Harbor-UCLA campus. The traffic impacts associated with this project's construction phases would be less than significant.

Long-Term (Operational Impacts)

Typically, trip generation rates from standard sources such as the Institute of Transportation Engineers are used to estimate trip generation for proposed development projects. Standard trip generation rates for hospital uses provide trip generation data based on hospital beds. However, the proposed project is intended to alleviate overcrowding and to accommodate projected increases in emergency visits and surgical procedures. It will not increase the number of hospital beds; nor is it anticipated that the number of medical center employees would increase significantly. Therefore, trip generation forecasts for the proposed project were developed based on the projected increases in patient workloads that could be accommodated by the expanded surgery/emergency area.

The County of Los Angeles Department of Health Services provided data regarding existing and projected Emergency Department patient visits and Surgery Department procedures. Emergency Department visits are projected to increase from approximately 86,280 annual visits and about 283 daily visits in 1998/99 to over 110,791 annual visits and about 363 daily visits by the year 2020. Total Surgery Department procedures are projected to increase from about 8,470 annual procedures in 1998/99 to over 10,000 annual procedures by the year 2020. However, since the number of beds at the hospital will not be changed by the project, it is anticipated that only the increase in outpatient surgical procedures would generate new patient trips. Outpatient surgical procedures are projected to increase from about 2,470 annual visits and 10 daily visits in 1998/99 to over 3,000 annual visits and 12 daily visits in the year 2020. Thus, a net increase of only 82 daily patient visits (80 Emergency Department and 2 outpatient Surgery Department) is projected by the year 2020. To present a worst-case conservative analysis, all of the projected patient growth to 2020 was utilized in the trip generation and traffic impact analysis. Utilizing the assumptions identified in the traffic analysis, the estimated number of new trips that would be generated by the projected increase inpatient loads is 250 daily trips which include about 28 trips each during the AM and PM peak hours.

Under this worst-case scenario, the projected trips were distributed onto the street network. This distribution included the availability of the new Medical Center Driveway/Carson Street intersection. Based on the distribution of project traffic as well as the addition of existing and ambient growth, four of the seven intersections (Normandie/Carson, Vermont/Carson, I-110 southbound ramps/Carson, and Vermont/223rd) are projected to operate at poor levels of service (LOS E or F) during one or both of the weekday peak hours under future ambient conditions without and with the proposed project (see Appendix E). Poor levels of service are also projected at the stop-controlled movements on southbound Berendo Avenue at the Carson/Berendo intersection under ambient without project conditions. With construction of the new project driveway opposite Berendo and signalization of the intersection; however, the Carson/Berendo intersection is projected to operate at good levels of service with the project.

b) *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?*

Less Than Significant Impact. Kaku Associates performed cumulative base traffic projections, which reflect anticipated future traffic increases from both ambient growth in traffic, and traffic generated by specific future projects located within the vicinity of the Harbor-UCLA Medical Center. Ten projects, located in the cities of Los Angeles, Carson and Torrance were identified as contributing to potential cumulative traffic congestion in the project vicinity (see Figure 8 in Appendix E). Together with the proposed project, the cumulative traffic volumes are represented in Figure 10 in Appendix E. In comparison, Figure 6 in Appendix E represents the proposed project's resulting traffic volume and clearly illustrates that there is only a proportionately minor increase in volume as a result of project implementation.

The project and cumulative traffic volumes were analyzed to determine the corresponding LOS for each of the intersections in the project vicinity, and indicates that four of the study intersections (Normandie/Carson, Vermont/Carson, I-110 southbound ramps/Carson, and Vermont/223rd) are projected to operate at poor levels of service (LOS E or F) during one or both of the weekday AM and PM peak hours. Poor levels of service are also projected for the stop-controlled movements on southbound Berendo Avenue at the Carson/Berendo intersection under cumulative base conditions. These poor levels of service at these intersections would exist regardless of project implementation. With the construction of the new driveway opposite Berendo and signalization of the intersection, however, the Carson/Berendo intersection is projected to operate at good levels of service with the project. The Vermont/220th intersection and the main medical center entrance at Carson are each projected to operate at fair to good levels of service (LOS D or better) during both the AM and PM peak hours. The Berendo/Carson intersection is projected to operate at good levels of service during both the AM and PM peak hours, after project implementation.

TABLE 18
CUMULATIVE BASE (2010) AND CUMULATIVE PLUS PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Cumulative Base		Cumulative Plus Project		Project Increase in V/C	Significant Project Impact?
		V/C Ratio	LOS	V/C Ratio	LOS		
1. Normandie Ave. & Carson St.	AM PM	0.983 1.095	E F	0.983 1.096	E F	0.000 0.001	No No
2. Berendo Ave. & Carson St.	AM PM	** [a] ** [a]	F F	0.646 [b] 0.788 [b]	B C	n/a n/a	No No
3. Medical Center Driveway & Carson St.	AM PM	0.809 0.810	D D	0.702 0.776	C C	-0.107 -0.034	No No
4. Vermont Ave. & Carson St.	AM MP	1.025 1.026	F F	1.029 1.030	F F	0.004 0.004	No No
5. I-110 SB Ramps & Carson St.	AM PM	0.901 0.922	E E	0.907 0.926	E E	0.006 0.004	No No
6. Vermont Ave. & 220th St.	AM PM	0.710 0.727	C C	0.711 0.728	C C	0.001 0.001	No No
7. Vermont Ave. & 223rd St.	AM PM	1.030 1.091	F F	1.032 1.092	F F	0.002 0.001	No No

** Indicates oversaturated conditions. Delay cannot be calculated.
Source: Kaku Associates, 2005

As shown in Table 18, the LOS in the project vicinity would also result in a singular change in the LOS, from D to C, at Medical Center Driveway and Carson Street. However, this change would not be considered significant but rather a beneficial impact, and therefore, project implementation would not exceed, either individually or cumulatively, applicable levels of service in the project vicinity.

c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

Less Than Significant Impact. Existing structures on the project site do not affect air traffic patterns. The project includes modifications to medical center's permanent helistop and construction of an interim helistop. The permanent helistop would be located at the existing site, however the new permanent helistop would be 14 feet above grade from the existing at-grade site. The temporary helistop will be located in the southwest portion of the hospital campus approximately 10 feet above grade and will remain in use for approximately two to three years. Helicopters that use the medical center's helistop contribute to air traffic patterns in the vicinity, but would not change their approach routes due to project implementation. Use of the temporary helistop, and construction and usage of the proposed helistop, would not result in substantial safety risks or result in a change in air traffic patterns.

d) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Less Than Significant Impact. The proposed project consists of construction of a new Surgery/Emergency Building on the Harbor-UCLA campus to alleviate current overcrowding and to accommodate projected future increases in emergency visits and surgical procedures. Construction of the new building will also necessitate reconfiguration of the existing parking supply and internal access roads on the campus, including a new signalized campus vehicular entrance that would be constructed on Carson Street opposite Berendo Avenue. Reconfiguration of the internal access roads would not create dangerous intersections and operational usage of the proposed facility would not introduce incompatible uses. Pedestrian walkways on the site would be temporarily disrupted during project construction, but would be restored upon completion of the construction phases. Accordingly, this project would not increase traffic hazards.

e) Result in inadequate emergency access?

No Impact. As noted in the preceding response, the internal access road on the campus would need to be reconfigured to accommodate the replacement of the Surgery and Emergency Department. However, emergency access to existing medical facilities on site would remain unchanged. Therefore, project implementation would not resulting inadequate emergency access.

f) Result in inadequate parking capacity?

Less Than Significant Impact. As shown in Table 19, a total of about 3,324 parking spaces are provided for the medical center campus, including 3,217 spaces on the main campus, 21 spaces at the Child Care Center at 975 Carson Street, and 86 spaces in the REI lot on the south side of 220th Street.

The on-site parking lots and access roadways will be reconfigured as part of the project. Construction of the new Surgery/Emergency Building as well as related items such as relocation of the loading area and changes to the internal access system will displace existing parking spaces on the main campus, and new parking lots will be constructed. The proposed project site plan was compared to the campus parking inventory to estimate the number of existing parking spaces that would be displaced and the number of spaces that would be provided in the new parking lots.

As shown in Table 20, an estimated total of 1,137 existing parking spaces would be displaced by the project while 589 new spaces would be provided in new parking lots, resulting in a net reduction of about 548 on-campus parking spaces. After the proposed project is completed, the estimated future total of parking spaces campus-wide would be approximately 2,776 spaces.

TABLE 19
CAMPUS PARKING INVENTORY

Type of Space	Number of Parking Spaces			
	Main Campus [a,b]	Child Care Center (975 Carson) [c]	REI Lot s/o 220th [a]	Total
Unrestricted	2,613	20	83	2,716
Handicapped	102	1	3	106
Employee Only	365			365
Other Restricted:				
Carpool	93			93
Emergency	12			12
Permit	9			9
Police Vehicles	4			4
Ambulance	8			8
Restricted (clinics)	5			5
20 Minute	4			4
Taxi	2			2
Other Restricted Subtotal	137			137
Total Medical Center Parking Supply	3,217	21	86	3,324

Source: Los Angeles County Department of Health Services, January 2002.
a See Figures 10 and 11 in Appendix E for locations of subareas A-F.
b Based on analysis of existing parking areas affected by proposed project site plan.
c Estimated based on review of proposed project site plan.

TABLE 20
ESTIMATION OF FUTURE PARKING SUPPLY WITH PROJECT

Map ID [a]	General Location	Existing Spaces to be Removed [b]	Future spaces With Project [c]
A	North parking lot	337	268
B	Northeast parking lot	145	132
C	Directly west of new Emergency Dept.	271	140
D	Helistop area	43	24
E	New Emergency Dept., ambulance, service yard	167	25 [d]
F	West side of Central Drive	174	0
	Total	1,137	589
	Net Change		-548
	Total Campus wide Parking Supply	Existing 3,324 [e]	Future With Project 2,776 [e]

a See Figures 10 and 11 in Appendix E for locations of subareas A-F.
b Based on analysis of existing parking areas affected by proposed project site plan.
c Estimated based on review of proposed project site plan.
d Ambulance, police, and handicapped parking.
e From Table 8 in Appendix E. Includes existing spaces at Child Care Center (975 Carson) and in REI lot south of 220th Street.

The County of Los Angeles Code requires two parking spaces per bed for hospital uses, one space per 250 square feet for outpatient uses, and one space per 400 square feet for research uses. The County of Los Angeles Department of Health Services provided information regarding the distribution of campus building areas for each of these categories. As shown in Table 21 below, after completion of the project, it is estimated that there would be 553 hospital beds, 241,127 square feet of outpatient uses, and 248,668 square feet of research uses on the campus. This results in a total Los Angeles County code requirement for 2,693 parking spaces. Although the project would result in an estimated net reduction of 548 spaces, the 2,776 future spaces provided would exceed the code requirement by 83 spaces. Therefore, project implementation would result in adequate parking capacity.

Furthermore, during phasing of the construction activities, parking areas will be temporarily unavailable for parking. In addition, approximately 100 parking spaces on the southeast side of the existing hospital will be unavailable for parking because this area will be used as the temporary ambulance access area until the construction activities are completed. The County intends to retain at least 2,693 parking spaces, which is required by County Code, for staff, patients, and visitors during construction activities. Therefore, adequate parking capacity would be provided during construction activities.

TABLE 21
PARKING REQUIREMENTS AND ANALYSIS

Use	Code Parking Ratio [a]	Size [b]	Number of Spaces
Parking Requirement			
Hospital Beds	2 spaces/ 1 bed	553 beds	1,106
Outpatient Use	1 space/ 250 SF	241,127 SF	965
Research Use	1 space/ 400 SF	248,668 SF	622
Total			2,693
Parking Supply			
On-Site Parking Supply [c]			2,776
Above Code/(Below Code)			83

a. Source: Los Angeles County Code.
b. Source: space use distribution information provided by Los Angeles County Department of Health Services, 1/17/02. See Appendix E for detailed tabulation.
c. Estimated future parking supply with project from Table 19.

g) *Conflict with applicable policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?*

No Impact. During the construction phases, there may be some temporary encroachments of construction materials, equipment, storage, or work crewmembers into nearby pedestrian pathways, however paths providing access to onsite facilities would be closed and pedestrians would have sufficient maneuvering space to maintain travel. The proposed building footprint and site improvements would not eliminate any existing alternative transportation facilities and would not conflict with any policies, plans, or programs supporting alternatives to private automobile travel.

16. UTILITIES AND SERVICE SYSTEMS—Would the project:

a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

No Impact. Following completion of the project, wastewater discharged from Harbor-UCLA Medical Center will continue to meet the requirements established for wastewater discharges by the State Water Resources Control Board. The 1972 State Policy for Water Quality Control and subsequent water quality policies establish general principles, which are necessary for implementing programs that protect water quality throughout the state. Maintaining compliance with water quality standards involves protecting the beneficial uses and meeting water quality objectives established for water bodies within the Los Angeles Region, which include the Santa Clara River, Los Angeles River, and the San Gabriel River. The proposed project will not affect the existing wastewater treatment requirements.

b) *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Less Than Significant Impact. Presently, Harbor-UCLA does not have its own wastewater treatment facility. Thereby, all of the wastewater generated at the Medical Center is discharged into a 10-inch lateral on the east side of the main hospital building and a 54" trunk sewer located in a north-south trending easement beneath Meyler Street. A 63" interceptor trunk sewer located in an east-west trending easement just north of 220th Street, while still present, has been taken out of service. According to the Los Angeles County Sanitation Districts, these sewer lines and the corresponding wastewater treatment facility, which are within Water District No. 5, have adequate capacity to accommodate the projected increase of up to 215 gallons per minute by the year 2020 (Appendix D). This projected increase may result from an increase in the number of surgeries and other procedures performed at Harbor-UCLA subsequent to construction. Less than significant impacts on wastewater facilities would occur with project implementation.

c) *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Less Than Significant Impact. The project as proposed involves the development of a new Emergency Department and Surgery Pavilion in an area that is currently an asphalt-paved parking lot. The construction of the building will therefore not increase the amount of impervious surfaces and consequently the amount of surface water runoff is not expected to increase. Therefore, the proposed project would not affect existing stormwater drainage facilities.

A 48-inch diameter county flood control storm drain in a 15-foot-wide easement crosses the Medical Center campus in an east-west direction along 220th Street from Normandie Avenue and then turns north just west of Central Drive. Because the project would not result in an increase of impervious surface, no significant increase in the amount of surface runoff is expected with implementation of the project. The existing storm water drainage facilities are functional and adequate to handle the increased runoff that would result from project implementation. Therefore, expansion of existing, or construction of new, drainage facilities would not be required for this project.

d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

Less Than Significant Impact. The Metropolitan Water District and Los Angeles County Department of Public Works maintain domestic water lines in the area of the Medical Center. Specifically, 10" water mains cross 220th and Carson Streets to enter the Medical Center Campus. An additional 10" water main traverses the Medical Center along Meyler Street. Smaller lines and lines reserved for fire service are located adjacent to the main hospital building along the east and north sides. The existing water lines in the area are expected to provide more than adequate flow rates to facilitate the expansion of the Medical Center. Therefore, the project would result in less than significant impacts on water pressure and service capabilities.

e) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less Than Significant Impact. The generation of industrial waste at Harbor-UCLA is regulated by the Los Angeles County Sanitation District (Industrial Waster Permit No. 11262). The increased amount of wastewater generated from the Harbor-UCLA expansion will be removed from the site via a 10-inch lateral on the east side of the main hospital building and a 54" trunk sewer located beneath Meyler Street. Operation of the new Emergency Department and Surgery Pavilion, and a projected wastewater increase from the project of up to 215 gallons per minute from the project site by the year 2020, is not expected to result in a determination by the wastewater treatment provider that the project would exceed the capabilities of the wastewater treatment facilities, which serve the Medical Center and surrounding areas (Appendix D).

f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

Less Than Significant Impact. The El Sobrante Landfill, located in Corona in Riverside County, receives solid waste removed from the Medical Center by a medical waste hauling company Monday through Friday. Based on information from the California Integrated Waste Management Board, Solid Waste Information System, El Sobrante is a solid waste landfill with 495 acres of permitted disposal area and 184 million cubic yards of disposal volume. The landfill, which is estimated to receive approximately 2,500 tons of solid waste per day, has a remaining capacity of over 3 million cubic yards and an estimated closure date of 2030. Therefore, the solid waste disposal needs of the new Emergency Department and Surgery Pavilion would result in less than significant impacts on landfill services.

g) *Comply with applicable federal, state, and local statutes and regulations related to solid waste?*

No Impact. The Harbor-UCLA Medical Center will continue to comply with federal, state, and local statutes and regulations pertaining to solid waste and solid waste removal following completion of the project.

Mitigation Measure

Prior to final design, the County of Los Angeles Public Works Department shall review the proposed design in cooperation with the Los Angeles County Flood Control District to ensure that proposed improvements are compatible with onsite flood control facilities.

17. MANDATORY FINDINGS OF SIGNIFICANCE

a) *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

No Impact. Based on the lack of native habitat on the proposed project site, the proposed project would have no potential to affect fish or wildlife species or plants or plant communities. No known historical or prehistoric resources exist on the proposed project site.

b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a* *project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Less Than Significant Impact. As discussed in the preceding responses to the entire list of impact questions, this project would not result in any significant environmental impacts. The short-term and long-term effects associated with project construction and long-term operations would, however, contribute to cumulative impacts occurring as a result of related projects; however, the project's impacts would not be cumulatively considerable.

c) *Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less Than Significant Impact. As discussed in the preceding responses to the entire list of impact questions, this project would not result in any significant environmental impacts to human beings. Sufficient construction control measures have been identified to reduce short-term construction impacts to below a level of significance. Compliance with the many existing federal, state and local regulations, along with standard design criteria for medical buildings, will ensure that the such facilities and the activities that occur therein, will contain sufficient prevention and containment measures to reduce hazards associated with storage, use and transport of hazardous substances to a less than significant level.

18. FISH AND GAME DETERMINATION

Based on the information above, there is no evidence that the project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends. The presumption of adverse effect set forth in 14 CCR 753.5 (d) has been rebutted by substantial evidence.

IV. SUMMARY OF ENVIRONMENTAL EVALUATION

The implementation of the proposed project will result in environmental impacts. All environmental impacts are considered less than significant with the implementation of the following mitigation measures.

Aesthetics

- The lighting of the proposed temporary and permanent helistops shall be shielded so lighting is directed away from the adjacent residential uses.

Air Quality

- Heavy equipment shall be tuned up and maintained in accordance with manufacturer's specifications. Equipment logs demonstrating proper maintenance shall be maintained at the site during construction activities.
- Heavy equipment used during demolition, site preparation, and grading shall not exceed an aggregate use of 46 hours per day. Heavy equipment use during building construction shall not exceed an aggregate of 80 hours per day. Equipment logs demonstrating daily use shall be maintained at the site during construction activities.
- Heavy equipment shall not be allowed to remain idling for more than a five-minute duration.
- Trucks shall not be allowed to remain idling for more than a two-minute duration.
- Electric power shall be used to the exclusion of gasoline or diesel generators and compressors whenever feasible.
- Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and, if necessary, a flag-person shall be retained to maintain safety adjacent to existing roadways.
- All primers shall contain less than 0.85 pound per gallon (102 gram/liter) VOC.
- All top coats shall contain less than 0.07 pound per gallon (8 grams/liter) VOC.

Cultural Resources

- Prior to construction, the County of Los Angeles Department of Public Works shall verify that the following measures to protect cultural (archaeological and paleontological) resources are included in the contractor specifications. If evidence of cultural resources is encountered during project grading, all grading and related activity shall cease in the immediate area of the find and then a qualified archaeologist or paleontologist shall be retained to perform the following:

- To assess the significance of the resource.

- To recover artifacts that are determined and significant shall be offered to a repository with a retrievable system and an educational and research interest in the materials (i.e., Los Angeles County Museum).

- If human remains of possible Native American origin are encountered during the project, along with the Native American Heritage Commission, the Los Angeles County coroner's office and a qualified archaeologist shall be contacted by the contractor for preservation and protection of the remains per the California Native Commission.

Geology and Soils

- During construction, the contractor shall remove loose, disturbed material, uncertified fill, or otherwise unsuitable soils and replace them with properly compacted fill material as required by the approved construction documents.

- During final design, the County of Los Angeles shall incorporate into the project design the recommendations for construction outlined in the Report of Geotechnical Investigation - Proposed Emergency Department/Surgery Pavilion and Ambulatory Care Facility, prepared by Law/Crandall, Inc. (November 16, 1993).

Hydrology and Water Quality

- The Contractor shall file a Notice of Intent (NOI) to be covered by the California General Permit for New Development under the NPDES Stormwater Discharge Program. The NOI shall be accompanied by an SWPPP and appropriate fees and shall be filed with the State Water Resources Control Board at least 90 days prior to the onset of the site grading.

- The County shall prepare for approval prior to construction activities, an SWPPP described above which shall include the siting and maintenance of temporary sediment collection basins. The use of folter fences, filter dikes, and other construction site best management practices (BMPs) near stormwater system outlets shall be identified.

Public Services

- Prior to the approval of plans and specifications, the Los Angeles County Fire Department shall determine if additional manpower and equipment is required to provide adequate fire services to the Harbor-UCLA Medical Center campus.

Utilities and Service Systems

- Prior to final design, the County of Los Angeles Public Works Department shall review the proposed design in cooperation with the Los Angeles County Flood Control District to ensure that proposed improvements are compatible with onsite flood control facilities.

APPENDIX A
AIR QUALITY STUDY

AIR QUALITY STUDY
FOR
HARBOR-UCLA MEDICAL CENTER
SURGERY/EMERGENCY FACILITY REPLACEMENT

Prepared for:

County of Los Angeles
Department of Public Works

Contact: Ryan Wantz
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Prepared by:

Synectecology and Michael Brandman Associates

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May 2005

AIR QUALITY STUDY FOR HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

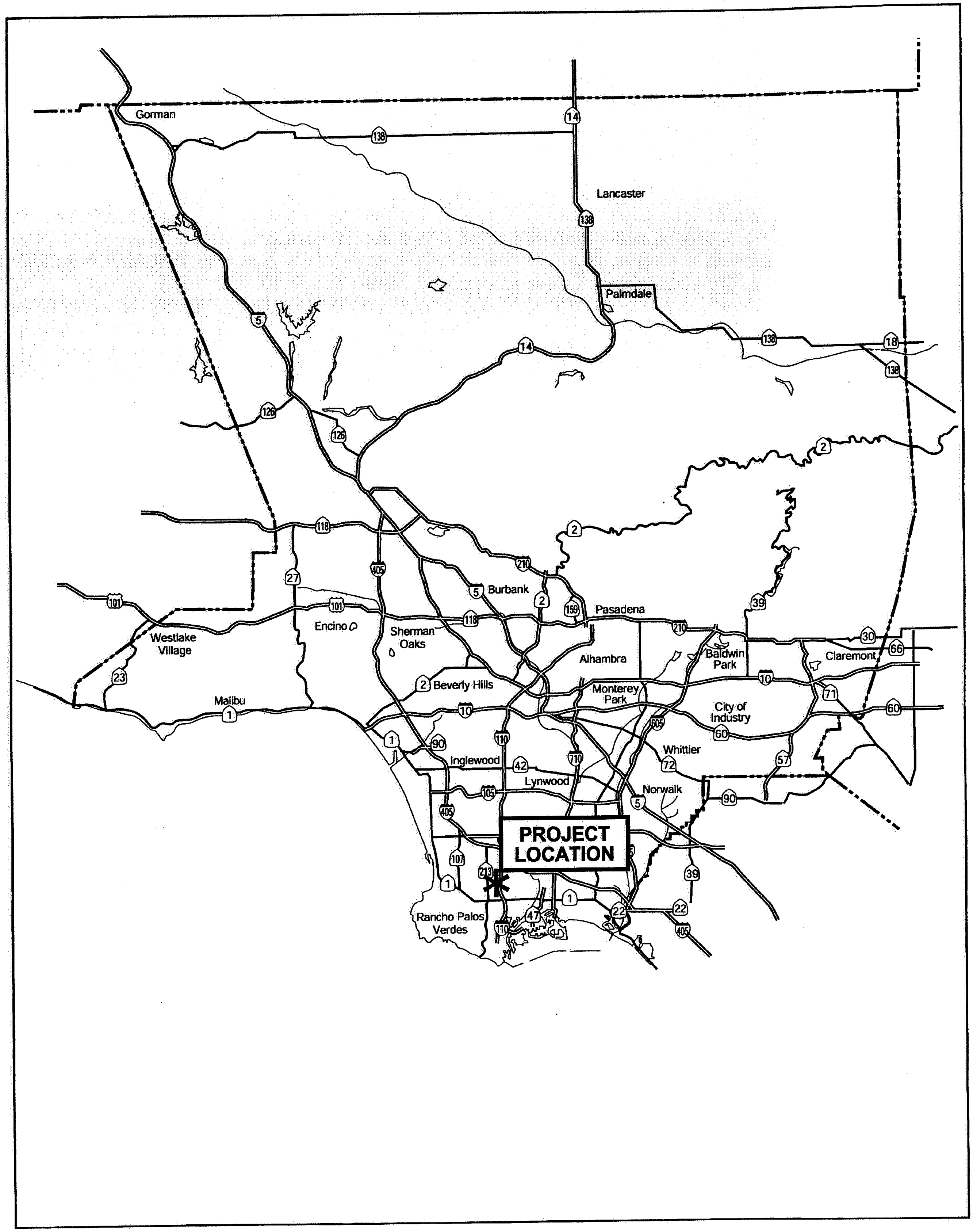
The County of Los Angeles Department of Public Works is proposing the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement project. The project site encompasses approximately 17 acres of which approximately 16.5 acres are located in the northeast portion of the existing Harbor-UCLA Medical Center campus. Approximately 0.5 acre is located in the southwest portion of the campus. The entire campus encompasses approximately 72 acres of unincorporated land in southern Los Angeles County, between the cities of Torrance, Los Angeles, and Carson. Occupying a large rectangular block, the campus is roughly a half-mile by a quarter mile in size (see Exhibits 1 and 2).

The proposed project is a part of the implementation of the Harbor-UCLA Medical Center Master Plan prepared in 1985. The master plan seeks to optimize the efficiency and capability of the Medical Center through better organization and separation of inpatient and outpatient services, major space additions, and reallocation of existing space. Accordingly, the County of Los Angeles is proposing to expand the Harbor-UCLA Medical Center by constructing a new Surgery/Emergency Building on the existing hospital campus. The expansion building would include two stories and a basement and be approximately 190,300 square feet with a maximum height of 34-feet 3-inches (see Exhibit 3). The existing emergency and surgery departments would be relocated into the proposed building, which would be constructed on the southwest side of the existing hospital.

A new elevator tower is also proposed to improve circulation from the existing hospital to the proposed facility. This new tower would be attached to the west end of the existing 133-foot nine-story tower adjacent to the existing hospital and would have a maximum height of 131 feet, 6 inches.

The proposed project also includes the reconstruction of the existing helistop and the construction of a temporary helistop that would operate during project construction activities. Finally, the proposed project includes a reconfiguration of the onsite parking lot and the relocation of the main public entrance on Carson Street.

Following is the Air Quality Study for the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement project.



Michael Brandman Associates

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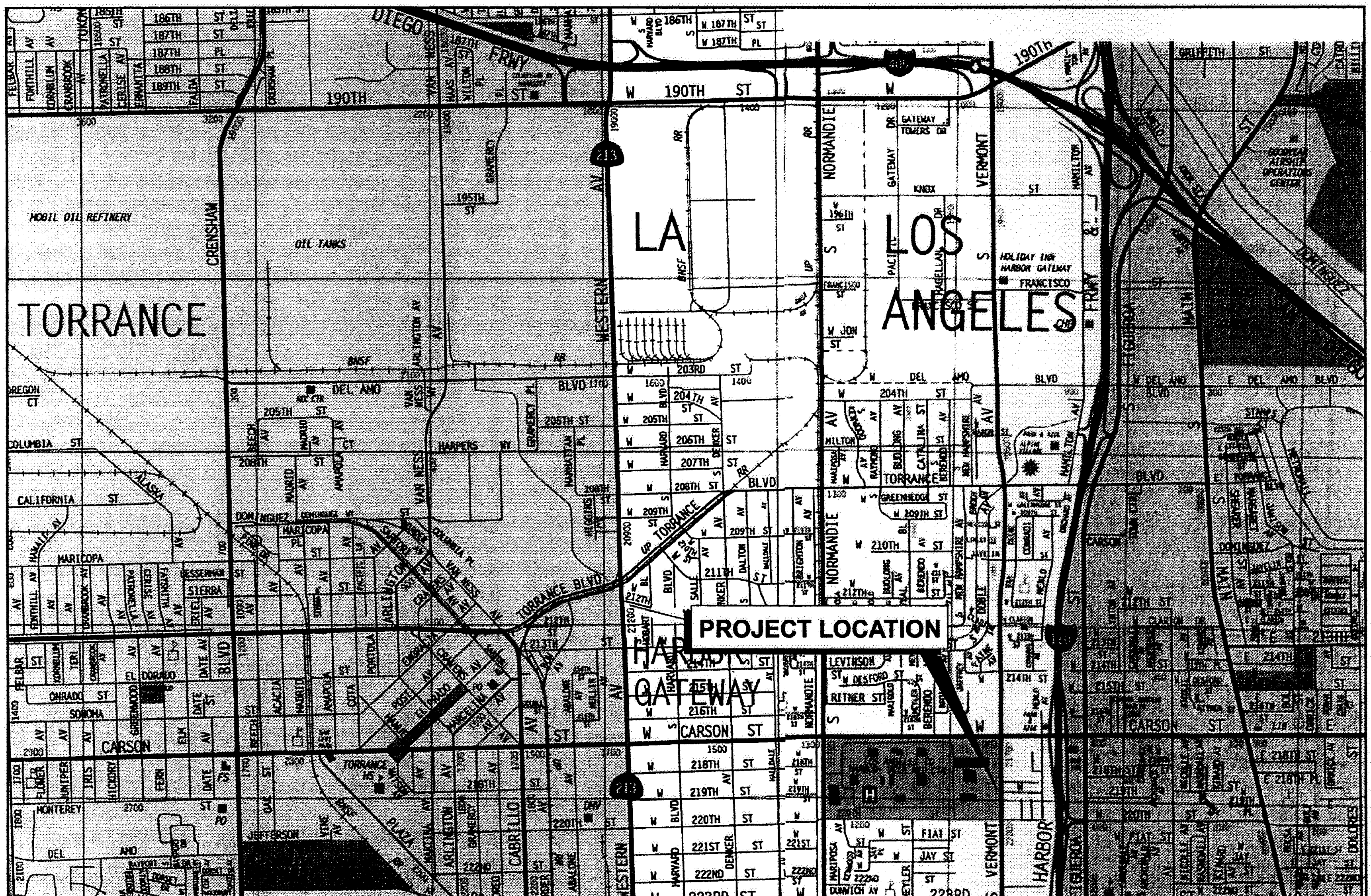
Exhibit **1**

Regional Location Map

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT



SOURCE: The Thomas Guide, Los Angeles and Orange Counties, 2002.

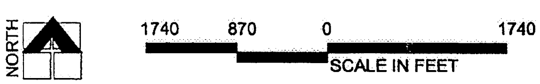


Exhibit 2

Local Vicinity Map

The air quality assessment for the proposed project included estimating emissions associated with construction and operation of the proposed project. The impact analysis contained in this section was prepared in accordance with the methodologies provided by the South Coast Air Quality Management District (SCAQMD) in its 1993 CEQA Air Quality Handbook (*Handbook*) as well as the URBEMIS2002 and provisions of the Caltrans Transportation Project-Level Carbon Monoxide Protocol (December 1997) and EMFAC2002 and CALINE4 computer models.

1.0 Existing Setting

Climate/Meteorology

The climate in the South Coast Air Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border and high mountains surround the rest of the Basin. The region lies in the semipermanent high-pressure zone of the eastern Pacific. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, there do exist periods of extremely hot weather, winter storms, or Santa Ana wind conditions.

Although the Basin has a semi-arid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The dominant daily wind pattern is an onshore daytime breeze and an offshore nighttime breeze. The typical wind flow pattern fluctuates only with occasional winter storms or strong northeasterly Santa Ana winds from the mountains and deserts north of the Basin. Summer wind flow patterns represent worst-case conditions, as this is the period of higher temperatures and more sunlight which result in ozone formation.

The vertical dispersion of air pollutants in the South Coast Air Basin is limited by temperature inversions in the atmosphere close to the earth's surface. Temperature normally decreases with altitude and a reversal of this atmospheric State, where temperature increases with altitude, is called an inversion. The height from the earth to the inversion base is known as the mixing height.

Inversions are generally lower in the nighttime when the ground is cool than during the daylight hours when the sun warms the ground and in turn, the surface air layer. As this heating process continues, the temperature of the surface air layer approaches the temperature of the inversion base causing heating along its lower edge. If enough warming takes place, the inversion layer becomes weak and opens up to allow the surface air layers to mix upward. This can be seen in the middle to late afternoon on a hot summer day when the smog appears to clear up suddenly. Winter inversions typically break earlier in the day, preventing excessive contaminant build-up.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high winds speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide and oxides of nitrogen because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen.

Ambient Air Quality

The following characterization of the baseline atmospheric environment includes an evaluation of the ambient air quality and applicable rules, regulations, and standards for the area. Because the project has the ability to release gaseous emissions of criteria pollutants and dust into the ambient air, it falls under the ambient air quality standards promulgated on the local, State, and federal levels.

Affected Environment

The project is located in the SCAB and is subject to the rules and regulations imposed by the South Coast Air Quality Management District (SCAQMD). However, the SCAQMD reports to the California Air Resources Board (CARB) and all emissions are also governed by the California Ambient Air Quality Standards (CAAQS) as well as the National Ambient Air Quality Standards (NAAQS).

Topographical features which affect the transport and diffusion of pollutants in the project area include the mountain ranges to the east that prevent the eastward transport of pollutants. Air quality in the SCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

The quality of the ambient air is affected by pollutants emitted into the air from stationary and mobile sources. Stationary sources can be divided into two major subcategories: point sources and area sources. Point sources consist of one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial processing plants. Area sources are widely distributed and produce many small emissions, such as residential water heaters.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources are a combination of emissions from automobiles, trucks and indirect sources. Indirect sources are sources that by themselves may not emit air contaminants; however, they indirectly cause the generation of air pollutants by attracting vehicle trips or consuming energy. Examples of indirect sources include an office complex or commercial center that generates commuter trips and consumes energy resources through the use of electricity for lighting and space heating. Indirect sources also include actions proposed by local governments, such as redevelopment districts and private projects involving the development of either large buildings or tracts. In addition, indirect sources include those emissions created by the distance vehicles travel. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Criteria Air Pollutants

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law. These regulated air pollutants are known as "criteria air pollutants" and are categorized as primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. CO, ROG, nitrogen oxides (NOx), sulfur dioxide (SO_2) and most fine particulate matter (PM_{10}, $PM_{2.5}$) including lead (Pb) and fugitive dust; are primary air pollutants. Of these CO, SO_2, PM_{10} and $PM_{2.5}$ are criteria pollutants. ROG and NOx are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reaction in the atmosphere. O_3 and nitrogen dioxide (NO_2) are the principal secondary pollutants.

Presented below is a description of each of these primary and secondary criteria air pollutants and their known health effects. Other pollutants, such as carbon dioxide, a natural by-product of animal respiration that is also produced in the combustion process, have been linked to such phenomena as global warming. These emissions are unregulated and there are no thresholds for their release. Furthermore, these pollutants do not jeopardize the attainment status of the Basin. Finally, these pollutants are not predicted using the most current Urban Emissions Model (URBEMIS2002) and so are omitted from further discussion.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances (e.g., gasoline or diesel fuel). The primary adverse health effect associated with CO is the interference of normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.

Reactive Organic Gases (ROGs) are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROG include the evaporative emissions associated with the use of paints and solvents, the application of asphalt paving and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROG, but rather by reactions of ROG to form secondary pollutants.

Nitrogen Oxides (NOx) serve as integral participants in the process of photochemical smog production. The two major forms of NOx are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. NOx acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Nitrogen Dioxide (NO_2) is a byproduct of fuel combustion. The principal form of NO_2 produced by combustion is NO, but NO reacts to form NO_2, creating the mixture of NO and NO_2 commonly called NOx. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10} (particulates having an aerodynamic diameter of 10 microns or 0.0004 inch or less in diameter).

Sulfur Dioxide (SO_2) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO_2. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.

Particulates (PM) matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes and mists. Two forms of fine particulate are now recognized. Course particles, or PM_{10}, include that portion of the particulate matter with an aerodynamic diameter of 10 microns (i.e., ten one-millionths of a meter or 0.0004 inch) or less. Fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction and transportation activities. However, wind action on the arid landscape also contributes substantially to the local particulate loading. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems. Currently, the SCAQMD has not promulgated emissions thresholds for $PM_{2.5}$. Additionally, this pollutant is not projected using the most current URBAN EMISSIONS Model (URBEMIS2002). Until that time, any impact associated with the release of $PM_{2.5}$ would be speculative and as such, is omitted from further discussion under the provisions of CEQA Section 21082.2.

Fugitive Dust poses primarily two public health and safety concerns. The first concern is that of respiratory problems attributable to the suspended particulates in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive material agent (much like sandblasting activities). Finally, fugitive dust can result in a nuisance factor due to the soiling of proximate structures and vehicles.

Ozone (O_3) is one of a number of substances called photochemical oxidants that are formed when reactive organic compounds (ROC) and NOx (both byproducts of the internal combustion engine) react with sunlight. O_3 is present in relatively high concentrations in the SCAB, and the damaging effects of photochemical smog are generally related to the concentrations of O_3. O_3 may pose a health threat to those who already suffer from respiratory diseases as well as healthy people. Additionally, O_3 has been tied to crop damage, typically in the form of stunted growth and pre-mature death. O_3 can also act as a corrosive resulting in property damage such as the embitterment of rubber products.

Ambient Air Quality Standards (AAQS)

The Clean Air Act Amendment of 1971 established national Ambient Air Quality Standards (AAQS) with states retaining the option to adopt more stringent standards or to include other pollution species. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both the State of California and the federal government have established health based Ambient Air Quality Standards for six air pollutants. As shown in Table 1, these pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter (PM_{10}) and lead. ($PM_{2.5}$ particulate matter has also recently been added to this listing. However, for regulatory reasons discussed below and because the SCAQMD has not issued daily criteria for this pollutant species, potential $PM_{2.5}$ impacts are omitted from this analysis.) In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

In addition to primary and secondary Ambient Air Quality Standards, the State of California has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants, which actually threaten public health.

TABLE 1
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Ozone (O_3)	1 hour	0.09 ppm	0.12 ppm	Motor vehicles, paints, coatings, and solvents.
	8 hours	*	0.08 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	*	0.05 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.25 ppm	*	
Sulfur Dioxide (SO_2)	Annual Average	*	0.03 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	*	
	24 hours	0.04 ppm	0.14 ppm	
Suspended Particulate Matter (PM_{10})				
	Annual Arithmetic Mean	20 $\mu g/m^3$	50 $\mu g/m^3$	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	24 hours	50 $\mu g/m^3$ (PM_{10})	150 $\mu g/m^3$ (PM_{10})	
Suspended Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 $\mu g/m^3$	15 $\mu g/m^3$	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	24 hours	*	65 $\mu g/m^3$	
Lead (Pb)	Monthly	1.5 $\mu g/m^3$	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	*	1.5 $\mu g/m^3$	
Sulfates (SO_4)	24 hours	25 $\mu g/m^3$	*	Industrial processes.

ppm: parts per million; $\mu g/m^3$: micrograms per cubic meter

* = standard has not been established for this pollutant/duration by this entity.

Air Quality Management Planning

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the SCAB. Since 1979, a number of AQMPs have been prepared. The 1997 AQMP, updated in 1999 and replaced in 2003, was based on the 1994 AQMP and ultimately the 1991 AQMP, and was designed to comply with State and Federal requirements, reduce the high level of pollutant emissions in the SCAB, and ensure clean air for the region through various control measures. To accomplish its task, the 1991 AQMP relied on a multilevel partnership of governmental agencies at the Federal, State, regional, and local level. These agencies (i.e., the USEPA, CARB, local governments, SCAG, and SCAQMD) are the cornerstones that implement the AQMP programs.

The most recent comprehensive plan is the 2003 Air Quality Management Plan adopted on August 1, 2003. The 2003 AQMP updates the attainment demonstration for the federal standards for ozone and particulate matter (PM_{10}); replaces the 1997 attainment demonstration for the federal carbon monoxide (CO) standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal nitrogen dioxide (NO_2) standard that the South Coast Air Basin (Basin) has met since 1992.

The current plan is under review by the USEPA. While the SCAQMD and governing board recommend the use for the 2003 AQMP for CEQA purposes, the 1997/99 Plan still serves as the local contribution to the State Implementation Plan.

Areas that meet the ambient air quality standards are classified as "attainment" areas while areas that do not meet these standards are classified as "non-attainment" areas. The severity of the classifications for ozone non-attainment include and range in magnitude from: marginal, moderate, serious, severe and extreme. The attainment status for the SCAB is included in Table 2.

TABLE 2
ATTAINMENT STATUS FOR THE SCAB

Pollutant	State Status	Federal Status
Ozone	Extreme Non-attainment	Extreme Non-attainment
PM_{10}	Serious Non-attainment	Serious Non-attainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment/Maintenance

The Basin is also designated as attainment of the CAAQS for SO_2, lead, and sulfates. Areas that are extreme non-attainment of the ozone standard must meet attainment by November 15, 2010. Areas considered as serious non-attainment of the PM_{10} standards must reach attainment by December 31 of the year 2006, or as expeditiously as possible.

Federal Clean Air Act Requirements

The CAA requires plans to provide for the implementation of all reasonably available control measures including the adoption of reasonably available control technology for reducing emissions from existing sources. Emission control innovations in the form of market-based approaches are explicitly encouraged by the CAA. The SCAQMD is the first local agency in the country to adopt a market-based approach for controlling stationary source emissions of oxides of nitrogen and sulfur. Other Federal requirements addressed in the revision include mechanisms to track plan implementation and milestone compliance for O_3 and CO.

U.S. EPA is now phasing out and replacing the current 1-hour primary ozone standard with a new 8-hour standard to protect against longer exposure periods. The new ozone standard is set at a concentration of 0.08 parts per million (ppm) and represents a tightening of the existing 1-hour ozone standard which is set at 0.12 ppm. Under the form of the standard adopted by USEPA, areas are allowed to disregard their three worst measurements every year and average their fourth highest measurements over three years to determine if they meet the standard.

For particulate matter, the USEPA established a new annual and a 24-hour standard for $PM_{2.5}$ to complement the existing PM_{10} standards. The new annual $PM_{2.5}$ standard is set at 15 micrograms per cubic meter and the new 24-hour $PM_{2.5}$ standard is set at 65 micrograms per cubic meter. The annual component of the standard was set to provide protection against typical day-to-day exposures as well as longer-term exposures, while the daily component protects against more extreme short-term events. For the new 24-hour $PM_{2.5}$ standard, the form of the standard is based on the 98th percentile of 24-hour $PM_{2.5}$ concentrations measured in a year (averaged over three years) at the monitoring site with the highest measured values in an area. This form of the standard will reduce the impact of a single high exposure event that may be due to unusual meteorological conditions and thus provide a more stable basis for effective control programs.

While USEPA has retained the current annual PM_{10} standard of 50 micrograms per cubic meter, it has modified the form of the 24-hour PM_{10} standard set at 150micrograms per cubic meter. More specifically, USEPA revised the 1-expected exceedance form of the current standard with a 99th percentile form, averaged over three years.

Although the promulgation of the new standards for ozone and fine particulates is complete, USEPA has yet to promulgate the air quality designations of the various regions for the new ozone and $PM_{2.5}$ standards. Under a consent decree that was reached in response to a lawsuit that was filed by several environmental groups, USEPA has agreed to finalize its designations for the 8-hour ozone standard by 2004. In an effort to harmonize the implementation of both the 8-hour ozone and $PM_{2.5}$ standards, the USEPA will also attempt to complete its designations for the $PM_{2.5}$ standard by the end of 2004.

The state implementation plans that will incorporate attainment demonstrations with the new 8-hour and $PM_{2.5}$ standards are expected to be required within three years of the air quality designations or by 2007. Therefore, the current regulatory control strategies will continue to focus on attaining the 1-hour ozone standard with the recognition that these controls will have benefits toward attaining the 8-hour ozone and $PM_{2.5}$ standards. The USEPA is considering several options in transitioning from the 1-hour to the 8-hour standard, while ensuring that no backsliding will occur. Based on the recent consent decree guidance, it is most likely that the Basin will have to meet the federal $PM_{2.5}$ standards by 2014 and the 8-hour ozone standard by 2021.

2003 Air Quality Management Plan (AQMP)

To ensure continued progress toward clean air and comply with state and federal requirements, the SCAQMD, in conjunction with the CARB and SCAG, prepared the 2003 revision to its AQMP (2003 AQMP). The 2003 AQMP employs up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources.

The 2003 AQMP updates the demonstration of attainment with the federal standards for ozone and PM_{10}, replaces the 1997 attainment demonstration for the federal CO standard, and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal NO_2 standard that the Basin has met since 1992.

The 2003 AQMP proposes policies and measures to achieve federal and state standards for healthful air quality in the Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under District jurisdiction (namely, Coachella Valley). The Coachella Valley PM_{10} Plan was recently revised in June 2002 and forwarded to CARB and U.S. EPA for approval.

This revision to the Plan also addresses several State and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. This Plan is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 Amendments to the Ozone SIP for the SCAB for the attainment of the federal ozone air quality standard. However, this revision points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/99 Plan) to offset increased emission estimates from mobile sources and meet all federal criteria pollutant standards within the time frames allowed under the federal Clean Air Act.

Each revision of the AQMP represents a snapshot in time, based on the best available information. The 2003 AQMP generally is very similar to the structure of the 1997 Plan and the 1999 amendments to the ozone SIP, but like all new editions includes significant enhancements. The key improvements incorporated in the 2003 AQMP are summarized as follows:

- Revised emissions inventory projections using 1997 as the base year, the CARB on-road motor vehicle emissions model EMFAC2002, and SCAG 2001 Regional Transportation Plan (RTP) forecast assumptions;
- Revised control strategy that updates remaining control measures from the 1997/1999 SIP and

incorporation of new control measures based on current technology assessments;

- Reliance on 1997 ozone episodes and updated modeling tools for attainment demonstration relative to ozone and PM_{10}; and
- An initial assessment of progress toward the new federal 8-hour ozone and $PM_{2.5}$ standards.

The basic PM_{10} control strategy contained in the 1997 Plan, augmented by a few additional PM_{10} control measures included in this Plan revision, appears to be adequate to demonstrate attainment of the federal PM_{10} standard. With respect to ozone, however, the basic strategy of the 1997 Plan and the 1999 amendments were significantly overhauled to address the new realities of higher mobile source emissions and lower carrying capacities for ozone as indicated by new modeling and meteorological episodes. Additional reductions, above and beyond those committed to in the 1997 Plan and 1999 amendments, will be necessary to demonstrate attainment with the federal ozone standard and present a significant challenge.

Under federal conformity regulations, all federal or federally-funded transportation projects must conform to the SIP, and must not be a cause of impeding progress toward attainment of the federal standards. To establish conformity, emissions from future projects must be accounted for in the future baseline emissions inventories, such that the attainment demonstrations include these future emissions. For transportation projects, planning is now underway out to the year 2030. The Plan establishes conformity budgets for the future years based on the 2006 PM_{10} and 2010 ozone attainment demonstrations.

While ozone precursor emissions are expected to continue to decline in future years, primary PM_{10} emissions are expected to increase due to the expected growth in mobile vehicle population and vehicle miles traveled. To address this increase in primary PM_{10} emissions from travel while continuing to provide for attainment after 2006, this plan establishes a mechanism for conformity demonstration purposes based on the implementation of the new control measure, "Transportation Conformity Budget Backstop Control Measure" in which commitments are made to achieve additional primary PM_{10} reductions from transportation-related PM_{10} source categories in 2020 and 2030 to offset the increased emissions. This measure will be revised in future SIP revisions to reflect updated PM_{10} emission inventories and attainment demonstrations.

Baseline Air Quality

The site is located within the eastern-most portion of Source/Receptor Area (SRA) 3 (Southwest Coastal LA County), one of 28 monitored areas under SCAQMD jurisdiction. The communities within an SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations. The most current 5 years of data monitored at this station are included in Table 3.

These data show few recurring violations of the State and federal the hourly standards for ozone (O_3). While the summer ozone levels are occasionally unhealthful for all receptor populations, they are lower than inland communities. PM_{10} levels also exceed California Ambient Air Quality Standards on a fairly regular basis. Levels of primary automobile pollutants, such as CO, have also exceeded their standards in the last 5 years. However, the number of exceedances as well as the maximum values have continued to decline. Long-range data indicate that while desirable levels have not been attained for some pollutants, improvement has occurred throughout the past decade.

TABLE 3
AMBIENT AIR QUALITY MONITORING SUMMARY
FOR THE SOUTHWEST COASTAL LA COUNTY MONITORING STATION
(Number of Days Standards Were Exceeded and Maximum Levels During Such Violations)

Pollutant/Standard	1998	1999	2000	2001	2002
Ozone					
State 1-Hour ≥ 0.09 ppm	0	1	1	1	0
Federal 1-Hour > 0.12 ppm	0	1	0	0	0
Federal 8-Hour > 0.08 ppm	0	1	0	0	0
Max. 1-Hour Conc. (ppm)	0.09	0.15	0.10	0.10	0.09
Max. 8-Hour Conc. (ppm)	0.07	0.09	0.08	0.08	0.07
Carbon Monoxide					
State 1-Hour > 20 ppm	0	0	0	0	0
State 8-Hour > 9.0 ppm	1	0	0	0	0
Federal 8-Hour ≥ 9.5 ppm	0	0	0	0	0
Max 1-Hour Conc. (ppm)	11	10	9	7	7
Max. 8-Hour Conc. (ppm)	9.4	8.4	7.0	5.1	6.1
Nitrogen Dioxide					
State 1-Hour ≥ 0.25 ppm	0	0	0	0	0[2]
Max. 1-Hour Conc. (ppm)	0.15	0.13	0.13	0.11	0.10[2]
Inhalable Particulates (PM_{10})[1]					
State 24-Hour > 50 μg/m³	11.9	10.0	15.8	13.8	15.8
Federal 24-Hour > 150 μg/m³	0	0	0	0	0
Max. 24-Hour Conc. (μg/m³)	66	69	74	75	74

[1] Percent of samples exceeding standard.
[2] Less than 12 full months of data and may not be representative.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases.

Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered as sensitive as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

2.0 Thresholds of Significance

The State CEQA Guidelines define a significant effect on the environment as "a substantial adverse change in the physical condition which exists in the area affected by the proposed project." In order to determine whether or not the proposed project would cause a significant effect on the environment, the impact of the project must be determined by examining the types and levels of emissions generated and their impacts on factors that affect air quality. To accomplish this determination of significance, the SCAQMD has established air pollution thresholds against which a proposed project can be evaluated and assist lead agencies in determining whether or not the proposed project is potentially significant. If the thresholds are exceeded by a proposed project, then it should be considered significant.

While, the final determination of whether or not a project is significant is within the purview of the lead agency pursuant to § 15064(b) of the State CEQA Guidelines, the SCAQMD recommends that the following air pollution thresholds be used by lead agencies in determining whether the proposed project could result in a significant impact. If the lead agency finds that the proposed project has the potential to exceed these air pollution thresholds, the project should be considered significant. Each of these threshold factors is discussed below.

Thresholds for Construction Emissions

The following significance thresholds for construction emissions have been established by the SCAQMD. Projects in the South Coast Air Basin with construction-related emissions that exceed any of these emission thresholds should be considered to be significant:

- 75 pounds per day of ROG
- 100 pounds per day of NOx
- 550 pounds per day of CO
- 150 pounds per day of PM_{10}
- 150 pounds per day of SOx

Thresholds for Operational Emissions

Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the SCAQMD *Handbook*. The criteria include emissions thresholds, compliance with State and National air quality standards and conformity with existing State Implementation Plan (SIP) or consistency with the current Air Quality Management Plan (AQMP). The daily operational emissions "significance" thresholds are:

Regional Emissions Thresholds

- 55 pounds per day of ROG
- 55 pounds per day of NOx
- 550 pounds per day of CO
- 150 pounds per day of PM_{10}
- 150 pounds per day of SOx

Projects in the South Coast Air Basin with operation-related emissions that exceed any of the emission thresholds should be considered to be significant.

Local Emission Standards

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

The significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have significant impacts if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. The SCAQMD defines a measurable amount as 1.0 ppm or more for the 1-hour CO concentration by or 0.45 ppm or more for the 8-hour CO concentrations.

The SCAQMD indicates in Chapter 6 of the *Handbook*, that they consider a project to be mitigated to a level of insignificance if its emissions are mitigated below the thresholds provided above.

Operational Phase (Secondary Effects)

The SCAQMD recommends that "additional indicators" should be used as screening criteria with respect to air quality. Relevant additional factors identified in the *Handbook* include the following significance criteria:

- interference with the attainment of the federal or State Ambient Air Quality Standards by either violating or contributing to an existing or projected air quality violation

- generation of vehicle trips that cause a CO "hot spot"

The SCAQMD indicates in Chapter 6 of the *Handbook* that they consider a project to be mitigated to a level of insignificance if its secondary effects are mitigated below the thresholds provided above.

Standard Conditions and Uniform Codes

All projects constructed in the South Coast Air Basin are subject to standards conditions and Uniform Codes. Compliance with these provisions is mandatory and as such, does not constitute mitigation under CEQA. Those conditions specific to air quality are included below:

- Adherence to SCAQMD Rule 403, which requires that "...every reasonable precaution (is taken) to minimize fugitive dust emissions..." from grading operations to control particulate emissions, shall be implemented during the grading and construction phase.

- Adherence to SCAQMD Rules 431.1 and 431.2 which require the use of low sulfur fuel for stationary construction equipment.

- Adherence to SCAQMD Rule 1108 which sets limitations on ROG content in asphalt.

- Adherence to SCAQMD Rule 1113 which sets limitations on ROG content in architectural coatings.

- The project shall comply with Title 24 energy-efficient design requirements as well as the provision of window glazing, wall insulation, and efficient ventilation methods in accordance with the requirements of the Uniform Building Code.

3.0 Impact Analysis

The included analysis is based on methodologies and emission factors included in the SCAQMD *Handbook*, the URBEMIS72002, EMFAC2002, and CALINE4 computer models, and the Caltrans CO Protocol.

The project includes replacement of the Surgery and Emergency Department through a relocation of these facilities into an expansion of the existing hospital building. This expansion would occur along the west side of the existing hospital structure. The expansion includes two stories and a basement encompassing approximately 190,300 square feet. The expansion also includes the demolition and refurbishment of an existing parking area and the removal of four existing structures encompassing approximately 14,000 square feet. The area that currently houses the Surgery and Emergency Department will be remodeled to accommodate outpatient services.

The hospital also includes modifications to the existing helistop. A temporary helistop would be located at the southwestern portion of the hospital campus until the modifications are complete. This temporary stop would be used for a period of 2 to 3 years. Construction is estimated at 4 years with project completion expected in the year 2010.

Short-Term Construction-Related Impacts

Air quality impacts may occur during site preparation and construction activities required to implement the proposed land use. The project includes the construction of 190,300 square feet of structure and refurbishment of the parking area on approximately 17 acres. Major sources of emissions during this phase include exhaust emissions generated during demolition, site preparation, and subsequent construction of the structures, fugitive dust generated as a result of soil disturbances during demolition and excavation activities, and the emission of reactive organic compounds during site paving and painting of the structures.

Exhaust and Dust Emissions

Construction is extremely variable in time and space; therefore, daily emissions can only be approximated. The URBEMIS model estimates that for non-residential land uses, the area to be disturbed by daily grading activities is one half that of the structures to be constructed. Based on the construction of 190,300 square feet of structure, 95,150 square feet (2.2 acres) of area could be disturbed on any given day during the construction effort.

URBEMIS modeling was prepared to estimate the construction emissions associated with the demolition and subsequent development. The model assumes three phases to construction including demolition, grading and site preparation, and construction of the buildings including painting and paving. The URBEMIS model uses a default value of 1 year for construction. The model was reprogrammed to reflect a 4-year construction schedule beginning in January 2006. Based on the 4-year value, the model estimates demolition at 2.4 months, grading at 4.8 months, and building construction at 40.8 months during the 4-year period. Of this last phase, painting and paving are presented at 4.1 month and 2 months, respectively.

The model does not project the level of construction equipment used during demolition. However, the model notes that one rubber tired dozer and one tractor/loader/backhoe are required for each 0.5 acre disturbed during grading. The area to be demolished (i.e., approximately 14,000 square feet) represents just 0.3 acre and one dozer and one loader are assumed for these operations. This same equipment could also be used in the removal of the existing asphalt paving. Additionally, demolition would generate truck haul trips to remove the debris. The model estimates that this would be accomplished using five trucks generating 147 miles per day.

The model estimates that site grading would encompass as much as 2.2 acres per day and assigns eight pieces of heavy equipment to this task, estimated at 4.8 months. The construction of the structures is then estimated at 40.8 months. The model estimates that 17 pieces of equipment would be used during the construction of the structures. An additional three pieces are used in the construction of the parking area, estimated by the model at 2.2 acres. The results of the model are included in Table 4. Note that the modeled assumptions include the use of those measures included in SCAQMD Rule 403 that overlap the mitigation measures included in the model. These include twice daily watering of the active construction area, the replacement of disturbed soil as quickly as feasible, and the covering (wetting) of any stockpiles and haul roads. In actuality, Rule 403 includes measures beyond those available in the model and so the values are considered as conservative.

The model projects that based on the noted schedule and equipment involvement, NOx emission could exceed the daily threshold during site grading representing a potentially significant impact. The construction of the structures could also result in exceedance of the NOx threshold. Additionally, building construction could exceed the ROG threshold during the application of paints and coatings, again resulting in a potentially significant impact. The model results are included in the appendix.

TABLE 4
PROJECTED CONSTRUCTION EMISSIONS (LB/DAY)

Source	CO	NOx	ROG	SOx	PM_{10}[1]
Demolition Phase					
Equipment & Worker Vehicles	32.1	38.7	4.5	0.1	2.8
SCAQMD Daily Threshold	550	100	75	150	150
Exceeds Threshold?	No	No	No	No	No
Grading/Site Preparation Phase					
Equipment & Worker Vehicles	123.4	137.9	17.3	0.0	14.0
SCAQMD Daily Threshold	550	100	75	150	150
Exceeds Threshold?	No	Yes	No	No	No
Building Construction Phase					
Equipment, Worker Vehicles, & Coatings	253.8	200.8	109.2	0.0	9.2
SCAQMD Daily Threshold	550	100	75	150	150
Exceeds Threshold?	No	Yes	Yes	No	No

[1] Includes PM_{10} for both exhaust and dust.
Source: California Air Resources Board, URBEMIS2002: Version 7.5.0; South Coast Air Quality

Management District, *CEQA Air Quality Handbook*, 1993.

Odors

In addition to exhaust, dust, and ROG, project construction could release odors. Odors are one of the most obvious forms of air pollution to the general public and can present significant problems for both the source and the surrounding community. Although offensive odors seldom cause physical harm, they can cause agitation, anger and concern to the general public. Most people determine an odor to be offensive (objectionable) if it is sensed longer than the duration of a human breath; typically 2 to 5 seconds.

The only potential odors associated with the project are from the application of asphalt and paint during the construction period. These odors, if perceptible, are common in the environment and would be of very limited duration. Therefore, any odor impacts would not be considered as significant.

Long-Term Operational Impacts

Long-term air quality impacts are those associated with the emissions produced from project-generated vehicle trips as well as from stationary sources related to the use of natural gas.

Mobile Source Emissions

The traffic analysis prepared by Kaku Associates (February 2005) estimates that the project would generate as many as 246 new trips per day. Emissions generated by project-related trips are based on the URBEMIS2002 computer model and assume year 2010 emission factors. Both summer and winter were modeled and the higher of the two values are included in Table 5. Note that all emission are within their respective criteria and the impact is less than significant. Model runs are included in the appendix.

TABLE 5
DAILY OPERATIONAL EMISSIONS

Source	Pollutants (lb/day)				
	CO	NOx	ROG	SOx	PM_{10}
Mobile Sources	21.3	2.9	4.2	0.0	0.1
Natural Gas	0.5	1.3	0.1	0.0	0.0
Operational Total	21.8	4.2	4.3	0.0	0.1
Threshold	550	55	55	150	150
Exceeds Threshold	No	No	No	No	No

Secondary Impacts

Other air quality impacts will also occur indirectly because of project implementation. These indirect impacts, though individually small, can make a substantial contribution to regional air quality when summed for the Basin overall. These secondary impacts include the on-site combustion of natural gas used for cooking, heating, and hot water.

The emissions associated with the use of 190,300 of hospital space are projected by the URBEMIS2002 model and their daily contribution is included in Table5. The reduction in emissions associated with the removal of the existing 5,037 square feet of structure is inconsequential and would not change the results of the analysis.

Microscale Projections

An impact is also potentially significant if emission levels exceed the State or Federal Ambient Air Quality Standards. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to these air quality standards is typically demonstrated through an analysis of localized CO concentrations.

Areas of vehicle congestion that have the potential to create "pockets" of CO are called "hot spots." These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. Note that the federal levels are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition will occur based on the State standards prior to exceedance of the federal standards.

Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersection locations. Typically, the level of service (LOS) at an intersection producing a hot spot is at "D" or worse during the peak hour. The traffic analysis indicates that the intersections at Normandie and Carson, Vermont and Carson, and Vermont and 223rd Street will operate at LOS E or F at project build out. Additionally, the intersection of the SB I-110 ramp and Carson would operate at LOS E. However, because this latter intersection serves as an on-ramp, no sensitive receptors are located immediately adjacent to it. Additionally, freeway emissions would overshadow those produced at the intersection such that any projected CO values would be meaningless.

To demonstrate the potential for the project to create hot spots, CALINE4 modeling was performed using the procedures outlined in the Caltrans CO Protocol (December 1997). The analysis includes the cumulative, with project traffic for both the a.m. and p.m. peak-hour periods. The analysis retains the existing lane configurations. Any proposed traffic mitigation measures were not included in the analysis. Any measures that reduce congestion would be expected to result in reduced CO concentrations. Model results are included in Table 6. Modeling methodology is included in the appendix.

The modeling results depicted in Table 6 show that none of the intersections would violate either the 1-or 8-hour California standards of 20 and 9.0 ppm, respectively, and the impact is less than significant.

TABLE 6
CO MICROSCALE ANALYSIS[1]

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	Volume	1-hour CO Concentration (ppm)	8-hour CO Concentration (ppm)	Volume	1-hour CO Concentration (ppm)	8-hour CO Concentration (ppm)
Normandie @ Carson	4,593	10.5	8.3	5,257	10.6	8.4
Vermont @ Carson	5,284	10.8	8.6	5,544	11.3	8.9
Vermont @ 223rd	4,200	10.6	8.4	4,507	10.5	8.3

[1] As measured at a distance of 10 feet from the corner of the intersection predicting the highest value. CO values include background concentrations of 7.3 and 6.1 ppm for 1- and 8-hour concentrations, respectively. Eight-hour concentrations are based on a persistence factor of 0.7 of the 1-hour concentration.

Consistency Analysis

CEQA requires that projects be consistent with the AQMP. A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the AQMP in the following ways. It fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. Additionally, it provides the local agency with ongoing information assuring local decision-makers that they are making real contributions to clean air goals contained in the AQMP. Only new or amended General Plan elements, Specific Plans, and significant projects need to undergo a consistency review. This is because the AQMP strategy is based on projections from local General Plans. Therefore, projects that are consistent with the local General Plan are considered consistent with the air quality-related regional Plan. The project will not require a General or Specific Plan Amendment nor does it result in significant levels of long-term air quality pollutants. Furthermore, with the inclusion of the prescribed mitigation measures, construction emissions can be reduced to less than the daily threshold values reducing these impacts to less than significant. As such, the project is considered to be consistent with the AQMP and no formal consistency determination is necessary.

4.0 Cumulative Impacts

The project area is out of attainment for ozone, CO, and PM_{10} particulate matter. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, the greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development.

Mitigation measures for the Project presented in Section 5.0 will reduce the project's emissions contribution mitigating its cumulative impact and can be applied to all similar cumulative projects. In accordance with SCAQMD methodology, any project that can be mitigated to less than the daily emissions thresholds, does not add significantly to the cumulative impact. As such, with the implementation of the proposed mitigation, construction impacts are reduced to less than significant and are therefore less than significant on a cumulative basis. Project operations are not projected to result in any significant impacts and no further mitigation is warranted.

With respect to cumulative impacts to Ambient Air Quality Standards, the traffic analysis prepared by Kaku Associates, and analysis presented in Table 6 include the composite CO emissions generated by existing, ambient growth, plus related project, plus project-generated traffic. Thus, the analysis includes the cumulative CO levels and as noted above, the project does not present a cumulative impact in this respect.

5.0 Mitigation

Construction

Site construction activities are estimated to result in an exceedance of the NOx threshold both during the grading phase and subsequent construction of the structures. Additionally, if conventional paints and coatings are used, building construction is anticipated to create significant ROG emissions associated with the application of these products and mitigation is warranted to reduce this impact to less than significant levels. Applicable mitigation includes the requirement that the construction contractor use low volatility paints and coatings as discussed below:

Mitigation:

Exhaust Emissions

- Heavy equipment shall be tuned up and maintained in accordance with manufacturer's specifications. Equipment logs demonstrating proper maintenance shall be maintained at the site during construction activities.
- Heavy equipment used during demolition, site preparation, and grading shall not exceed an aggregate use of 46 hours per day. Heavy equipment use during building construction shall not exceed an aggregate of 80 hours per day. Equipment logs demonstrating daily use shall be maintained at the site during construction activities.
- Heavy equipment shall not be allowed to remain idling for more than five minutes duration.
- Trucks shall not be allowed to remain idling for more than two minutes duration.
- Electric power shall be used to the exclusion of gasoline or diesel generators and compressors whenever feasible.
- Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and, if necessary, a flag-person shall be retained to maintain safety adjacent to existing roadways.

ROG Emissions

- All primers shall contain less than 0.85 pound per gallon (102 gram/liter) VOC.
- All top coats shall contain less than 0.07 pound per gallon (8 grams/liter) VOC.

6.0 Residual Impacts

Exhaust Emissions

The grading analysis includes eight pieces of heavy equipment each operating 8 hours per day (64 hour per day aggregate). The reduction from 64 to 46 hours would reduce equipment emissions by over 28 percent. This would reduce exhaust NOx to 99.1 pounds per day. With the inclusion of the other noted measures, daily NOx would be reduced to less than 100 pounds per day and the impact is reduced to less than significant.

The URBEMIS2002 Model estimates that construction of the structures with the simultaneous application of asphalt and paint could create an estimated 200.8 pounds per day of NOx. This value is based on the use of 20 pieces of heavy equipment each operating 8 hours per day for an aggregate of 160 hours per day. The restriction that this equipment be limited to no more than 80 hours per day would reduce this value to about 100.4 pounds per day. Again, with the inclusion of the other noted measures, daily NOx would be reduced to less than 100 pounds per day and the impact is reduced to less than significant.

ROG Emissions

Several of currently available primers have VOC contents of less than 0.85 pound per gallon (e.g., dulux professional exterior primer 100% acrylic). Top coats can be less than 0.07 pound per gallon (8 gm/liter) (e.g., lifemaster 2000-series). The 109.2 pound-per-day value presented for ROG in Table 5.3-4 includes 78.1 pounds per day from the use of paints and coatings and is based on coatings having a VOC content of 250 grams per liter. Assuming two coats of primer and one top coat, the mitigation would result in an average VOC content of about 71 grams per liter and paint emissions would be reduced from 78.1 to 22.2 pounds per day. Total ROG (including the simultaneous degassing of asphalt) would be reduced to no more than 53.3 pounds per day reducing the impact to less than significant.

7.0 Level of Significance After Mitigation

Construction

Implementation of the required measures would reduce construction impacts to less than significant.

Operations

No significant impacts have been identified and no mitigation is warranted.

APPENDIX A-1
URBEMIS2002 MODEL RESULTS FOR CONSTRUCTION EMISSIONS

URBEMIS 2002 For Windows 7.5.0

File Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\HARBOR MED.urb
Project Name: Harbor Medical Center
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: January, 2006
Construction Duration: 48
Total Land Use Area to be Developed: 8.7 acres
Maximum Acreage Disturbed Per Day: 2.2 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 190300

CONSTRUCTION EMISSION ESTIMATES MITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	1.11	-	1.11
Off-Road Diesel	4.31	34.45	30.66	-	1.59	1.59	0.00
On-Road Diesel	0.19	4.20	0.70	0.06	0.10	0.08	0.02
Worker Trips	0.04	0.07	0.74	0.00	0.00	0.00	0.00
Maximum lbs/day	4.54	38.72	32.10	0.06	2.80	1.67	1.13
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	7.58	-	7.58
Off-Road Diesel	17.23	137.82	122.66	-	6.37	6.37	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.06	0.04	0.76	0.00	0.01	0.00	0.01
Maximum lbs/day	17.29	137.86	123.42	0.00	13.96	6.37	7.59
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	26.15	203.17	190.54	-	9.20	9.20	0.00
Bldg Const Worker Trips	0.51	0.29	6.10	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	26.66	203.46	196.64	0.00	9.30	9.21	0.09
Max lbs/day all phases	26.66	203.46	196.64	0.06	16.80	9.21	7.59
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	26.15	194.21	196.98	-	8.42	8.42	0.00
Bldg Const Worker Trips	0.47	0.27	5.74	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	26.62	194.49	202.72	0.00	8.51	8.42	0.09
Max lbs/day all phases	26.62	194.49	202.72	0.00	8.51	8.42	0.09

*** 2008***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	26.15	185.26	203.19	-	7.63	7.63	0.00
Bldg Const Worker Trips	0.44	0.25	5.35	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	26.59	185.52	208.54	0.00	7.73	7.64	0.09
Max lbs/day all phases	26.59	185.52	208.54	0.00	7.73	7.64	0.09

*** 2009***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	26.15	176.52	209.63	-	7.17	7.17	0.00
Bldg Const Worker Trips	0.40	0.23	4.93	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	78.06	-	-	-	-	-	-
Arch Coatings Worker Trips	0.40	0.23	4.93	0.00	0.10	0.01	0.09
Asphalt Off-Gas	0.13	-	-	-	-	-	-
Asphalt Off-Road Diesel	4.00	23.39	33.99	-	0.68	0.68	0.00
Asphalt On-Road Diesel	0.02	0.44	0.09	0.00	0.01	0.01	0.00
Asphalt Worker Trips	0.02	0.01	0.25	0.00	0.00	0.00	0.00
Maximum lbs/day	109.18	200.82	253.83	0.00	8.06	7.88	0.18
Max lbs/day all phases	109.18	200.82	253.83	0.00	8.06	7.88	0.18

Construction-Related Mitigation Measures

Phase 2: Soil Disturbance: Apply soil stabilizers to inactive areas
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 30.0%)
Phase 2: Soil Disturbance: Replace ground cover in disturbed areas quickly
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 15.0%)
Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
Phase 2: Stockpiles: Cover all stock piles with tarps
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 9.5%)
Phase 2: Unpaved Roads: Water all haul roads 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 3.0%)
Phase 1 - Demolition Assumptions
Start Month/Year for Phase 1: Jan '06
Phase 1 Duration: 2.4 months
Building Volume Total (cubic feet): 139948.9
Building Volume Daily (cubic feet): 2638.09
On-Road Truck Travel (VMT): 147
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day

1	Rubber Tired Dozers	352	0.590	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Mar '06
Phase 2 Duration: 4.8 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
4	Rubber Tired Dozers	352	0.590	8.0
4	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Aug '06
Phase 3 Duration: 40.8 months
Start Month/Year for SubPhase Building: Aug '06
SubPhase Building Duration: 40.8 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
4	Concrete/Industrial saws	84	0.730	8.0
9	Other Equipment	190	0.620	8.0
4	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Aug '09
SubPhase Architectural Coatings Duration: 4.1 months
Start Month/Year for SubPhase Asphalt: Nov '09
SubPhase Asphalt Duration: 2 months
Acres to be Paved: 2.2
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

APPENDIX A-2
URBEMIS2002 MODEL RESULTS FOR SITE OPERATIONS

URBEMIS 2002 For Windows 7.5.0

File Name: <Not Saved>
Project Name: Harbor Medical Center
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Hospital	1.72	2.88	20.15	0.01	2.50
TOTAL EMISSIONS (lbs/day)	1.72	2.88	20.15	0.01	2.50

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 50 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Hospital	1.29 trips / 1000 sq. ft.	190.30	246.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	1.20	98.10	0.70
Med Truck 5,751- 8,500	7.30	1.40	95.90	2.70
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.60	68.80	31.20	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.40	7.10	85.70	7.20

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			
% of Trips - Commercial (by land use)						
Hospital				25.0	12.5	62.5

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Hospital	4.15	1.99	21.29	0.02	2.50
TOTAL EMISSIONS (lbs/day)	4.15	1.99	21.29	0.02	2.50

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Hospital	1.29 trips / 1000 sq. ft.	190.30	246.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	1.20	98.10	0.70
Med Truck 5,751- 8,500	7.30	1.40	95.90	2.70
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.60	68.80	31.20	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.40	7.10	85.70	7.20

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			
% of Trips - Commercial (by land use)						
Hospital				25.0	12.5	62.5

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.09	1.27	0.51	-	0.00
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.00	0.00	0.00	0.00	0.00
Consumer Prdcts	0.00	-	-	-	-
TOTALS(lbs/day,unmitigated)	0.09	1.27	0.51	0.00	0.00

APPENDIX A-3
CALINE4 MODELING ASSUMPTIONS

The carbon monoxide microscale analysis was prepared in accordance with the Caltrans Transportation Project-Level Carbon Monoxide Protocol (Revised December 1997). As noted in the Protocol, the EMFAC and CALINE models are sensitive to the volumes of trucks on the roadway as they contribute disproportionally to the pollutant loading. The composite CO emissions for all classes of vehicles (e.g., automobiles, trucks, busses, motorcycles) in the project area were derived from a year 2010 model run of the EMFAC2002 computer model (BURDEN2002 module) distributed by the CARB. BURDEN2002 also projects CO emissions both for starts and idling vehicles. Modeling was performed for both the a.m. and p.m. peak-hours for the Los Angeles County area in those cases where an intersection would meet or exceed Level of Service (LOS) "D."

The projected composite start and idle emissions for all vehicle classes were divided by the total number of miles traveled so that average start and idle emissions per mile factors could be derived. These emissions were then added to the emissions produced in the "run mode" as projected by the EMFAC2002 model and using an Excel spreadsheet, composite emissions were produced for any vehicle speed between 3 and 35 mph, extrapolated into 1 mph increments.

Per the Protocol, the intersection mode of the CALINE4 model is not to be used and intersections are modeled by using a reduced speed (and its attendant increase in emissions) to represent intersection speeds and waits. As per the Protocol, vehicles emissions were projected within 750 meters (2,460 feet) of the intersection. The first 600 meters (1,968 feet) were assumed in cruise mode. The speed during cruise mode is dictated by the Protocol and is based on the posted speed limit, but reduced in accordance with peak hour traffic volumes. The slowing period then lasts for 150 meters (492 feet). Vehicles leaving the intersection were assumed accelerate for a period of 150 meters (492 feet). Emissions for these departing vehicles were then considered to be in cruise mode out to a distance of 750 meters (2,460 feet).

The speeds while in slowing and accelerating modes (and their attendant emissions) are determined by the Protocol and consider the number of vehicles per lane and percent of time that the traffic signal is red. The intersection configuration is as presented in the traffic analysis. As a worst-case scenario, all modeling assumes that any intersection improvements discussed in the traffic analysis are not implemented. For the purposes of this analysis, the percentage of "red time" was modeled as being inversely proportional to the projected volume of vehicles. Thus, if the north/south-bound traffic constituted 60 percent of the total volume, it was allotted 40 percent of the "red time."

Also as noted in the CO Protocol, vehicle emissions are sensitive to the ambient temperature. Per the Protocol, ambient temperature is to be set at 5°F above the typical winter temperature. As the project area seldom gets below freezing, winter conditions with an ambient temperature of 40°F, were used in the EMFAC2002 model, which only accepts temperatures in 5°F increments. A temperature of 4°C (39.2°F) was used in CALINE4 model runs. Other atmospheric conditions used in the CALINE4 model include the minimum allowable wind speed (0.5 meters per second) with a standard deviation of 10 percent, a stability class of G, a mixing height of 1,000 meters and a ground surface roughness of 108 cm (43 in.); all indicative of a worst-case scenario in an urban setting.

Projected composite vehicle emissions were then used as data in the CALINE4 model to project CO emissions at a distance of 3 meters (10 feet) from each of the four corners of the intersection. To the projected CO values, an ambient concentration of CO was added. These values are provided by the SCAQMD on their Internet web site for use in CO modeling. The 1- and 8-hour ambient concentrations for the Hawthorne location (SRA 3) are presented as 7.3 and 6.1 ppm, respectively for the year 2010. The projected 8-hour concentration is based on a persistence factor of 0.7 of the modeled 1-hour concentration.

APPENDIX A-4
CALINE4 MODEL INPUTS AND RESULTS FOR YEAR 2010 WITH PROJECT INTERSECTION MOVEMENTS

Title (8 Letters)			"NORCAR0A"	Year	2010				
Intersection	N/S		NORMANDY	E/W	CARSON		Period	A.M.	

	# Lanes	# Thru Lane:	Left	Volumes In Through	Right	Vol In	Veh/Lane	Posted Speed
"Northbound"	3	2	190	722	82	994	497	35
"Southbound"	3	2	62	479	151	692	346	35
"Eastbound"	3	2	247	989	204	1440	720	35
"Westbound"	3	2	144	1229	94	1467	734	35

				Vol Out	Veh/Lane	Posted Speed
Total Volume	4,593	% Red Time	"Northbound"	1063	532	35
% N/S	37	60	"Southbound"	827	414	35
% E/W	63	40	"Eastbound"	1133	567	35
			"Westbound"	1570	785	35

	Lane Width	Lane Centerline		Receptor Locations		
North	14.0	5.5	N/E	14.0	14.0	1.8
South	14.0	-5.5	S/E	14.0	-14.0	1.8
East	14.0	-5.5	S/W	-14.0	-14.0	1.8
West	14.0	5.5	N/W	-14.0	14.0	1.8

"NORCAR0A"	4	16	2	*	*	*	*	*
1	108	0	0	0	"G"	*	*	*
0	0.5	28	1000	0	4	10	*	*
"Northbound"	1.0	994	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	-750.0	5.5	-150.0	*	*	*	*	*
"Northbound"	1.0	994	10.12	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	-150.0	5.5	0.0	*	*	*	*	*
"Northbound"	1.0	1063	7.60	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	0.0	5.5	150.0	*	*	*	*	*
"Northbound"	1.0	1063	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	150.0	5.5	750.0	*	*	*	*	*
"Southbound"	1.0	692	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	750.0	-5.5	150.0	*	*	*	*	*
"Southbound"	1.0	692	9.44	14.0	*	*	*	*

0.0	0.0	0.0	*	*	*	*	*	*
-5.5	150.0	-5.5	0.0	*	*	*	*	*
"Southbound"	1.0	827	6.78	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	0.0	-5.5	-150.0	*	*	*	*	*
"Southbound"	1.0	827	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	-150.0	-5.5	-750.0	*	*	*	*	*
"Eastbound"	1.0	1440	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-750.0	-5.5	-150.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	1440	9.78	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	-5.5	0.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	1133	6.30	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	-5.5	150.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	1133	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	-5.5	750.0	-5.5	*	*	*	*	*
"Westbound"	1.0	1467	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
750.0	5.5	150.0	5.5	*	*	*	*	*
"Westbound"	1.0	1467	9.78	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	5.5	0.0	5.5	*	*	*	*	*
"Westbound"	1.0	1570	6.66	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	5.5	-150.0	5.5	*	*	*	*	*
"Westbound"	1.0	1570	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	5.5	-750.0	5.5	*	*	*	*	*
14.0	14.0	1.8	*	*	*	*	*	*
14.0	-14.0	1.8	*	*	*	*	*	*
-14.0	-14.0	1.8	*	*	*	*	*	*
-14.0	14.0	1.8	*	*	*	*	*	*

This Spreadsheet Predicts Composite CO Levels For Use In The CO CALINE4 Model Analysis.
MODEL YEAR = 2010
AREA = Los Angeles
PEAK HOUR = A.M.
INPUT PARAMETERS

Hourly Miles (x 1,000) (From BURDEN2002)			16422		
Hourly Idle Emissions (Tons) (From BURDEN2002)			0.22		
Hourly Start Emissions (Tons) (From BURDEN2002)			28.22		
Input Run Emissions (Grams/Mile) (FROM EMFAC2002) (@ 40 Degrees F)					
3 MPH	9.538		Average Total Emissions	3 mph	11.11
4 MPH	9.202		Grams per Mile	4 mph	10.77
5 MPH	8.89			5 mph	10.46
10 MPH	7.189			6 mph	10.12
15 MPH	6.027			7 mph	9.78
20 MPH	5.205			8 mph	9.44
25 MPH	4.61			9 mph	9.10
30 MPH	4.176			10 mph	8.76
35 MPH	3.864			11 mph	8.53
OUTPUT PARAMETERS				12 mph	8.30
Average Idle Emissions (Grams/Mile)		0.012164		13 mph	8.06
Average Start Emissions (Grams/Mile)		1.560331		14 mph	7.83
				15 mph	7.60
				16 mph	7.44
				17 mph	7.27
				18 mph	7.11
				19 mph	6.94
				20 mph	6.78
				21 mph	6.66
				22 mph	6.54
				23 mph	6.42
				24 mph	6.30
				25 mph	6.18
				26 mph	6.10
				27 mph	6.01
				28 mph	5.92
				29 mph	5.84
				30 mph	5.75
				31 mph	5.69
				32 mph	5.62
				33 mph	5.56
				34 mph	5.50
				35 mph	5.44

MODEL RESULTS FOR FILE NORCAROA

RECEPTOR	* PRED CONC (PPM)	*WIND * BRG *(DEG)*	A	B	C	D	E	F	G	H
			COCN/LINK (PPM)							
RECPT 1	3.0	261	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0
RECPT 2	3.2	277	0.0	0.6	0.0	0.0	0.0	0.0	0.2	0.0
RECPT 3	2.7	81	0.0	0.4	0.0	0.0	0.0	0.0	0.3	0.0
RECPT 4	3.0	98	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0

RECEPTOR	* PRED CONC (PPM)	*WIND * BRG *(DEG)*	I	J	K	L	M	N	O	P
			COCN/LINK (PPM)							
RECPT 1	3.0	261	0.2	0.6	0.0	0.0	0.0	0.3	1.0	0.1
RECPT 2	3.2	277	0.2	1.4	0.1	0.0	0.0	0.0	0.4	0.3
RECPT 3	2.7	81	0.0	0.3	0.7	0.1	0.2	0.6	0.0	0.0
RECPT 4	3.0	98	0.0	0.0	0.3	0.2	0.2	1.4	0.2	0.0

Title (8 Letters)		"NORCAR0P"		Year	2010			
Intersection	N/S	NORMANDY		E/W	CARSON		Period	P.M.

	# Lanes	# Thru Lanes	Left	Volumes In Through	Right	Vol In	Veh/Lane	Posted Speed
"Northbound"	3	2	146	607	119	872	436	35
"Southbound"	3	2	79	730	168	977	489	35
"Eastbound"	3	2	191	1534	147	1872	936	35
"Westbound"	3	2	158	1272	106	1536	768	35

					Vol Out	Veh/Lane	Posted Speed
Total Volume	5,257	% Red Time		"Northbound"	904	452	35
% N/S	35	60		"Southbound"	1035	518	35
% E/W	65	40		"Eastbound"	1732	866	35
				"Westbound"	1586	793	35

	Lane Width	Lane Centerline		Receptor Locations		
North	14.0	5.5	N/E	14.0	14.0	1.8
South	14.0	-5.5	S/E	14.0	-14.0	1.8
East	14.0	-5.5	S/W	-14.0	-14.0	1.8
West	14.0	5.5	N/W	-14.0	14.0	1.8

"NORCAR0P"	4	16	2	*	*	*	*	*
1	108	0	0	0	"G"	*	*	*
0	0.5	28	1000	0	4	10	*	*
"Northbound"	1.0	872	5.63	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	-750.0	5.5	-150.0	*	*	*	*	*
"Northbound"	1.0	872	9.83	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	-150.0	5.5	0.0	*	*	*	*	*
"Northbound"	1.0	904	6.49	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	0.0	5.5	150.0	*	*	*	*	*
"Northbound"	1.0	904	5.63	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	150.0	5.5	750.0	*	*	*	*	*
"Southbound"	1.0	977	5.63	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	750.0	-5.5	150.0	*	*	*	*	*
"Southbound"	1.0	977	9.83	14.0	*	*	*	*

0.0	0.0	0.0	*	*	*	*	*	*
-5.5	150.0	-5.5	0.0	*	*	*	*	*
"Southbound"	1.0	1035	7.31	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	0.0	-5.5	-150.0	*	*	*	*	*
"Southbound"	1.0	1035	5.63	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	-150.0	-5.5	-750.0	*	*	*	*	*
"Eastbound"	1.0	1872	5.63	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-750.0	-5.5	-150.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	1872	10.82	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	-5.5	0.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	1732	6.82	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	-5.5	150.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	1732	5.63	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	-5.5	750.0	-5.5	*	*	*	*	*
"Westbound"	1.0	1536	5.63	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
750.0	5.5	150.0	5.5	*	*	*	*	*
"Westbound"	1.0	1536	9.49	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	5.5	0.0	5.5	*	*	*	*	*
"Westbound"	1.0	1586	6.37	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	5.5	-150.0	5.5	*	*	*	*	*
"Westbound"	1.0	1586	5.63	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	5.5	-750.0	5.5	*	*	*	*	*
14.0	14.0	1.8	*	*	*	*	*	*
14.0	-14.0	1.8	*	*	*	*	*	*
-14.0	-14.0	1.8	*	*	*	*	*	*
-14.0	14.0	1.8	*	*	*	*	*	*

This Spreadsheet Predicts Composite CO Levels For Use In The CO CALINE4 Model Analysis.
MODEL YEAR = 2010
AREA = Los Angeles
PEAK HOUR = P.M.
INPUT PARAMETERS

Hourly Miles (x 1,000) (From BURDEN2002)			17189		
Hourly Idle Emissions (Tons) (From BURDEN2002)			0.11		
Hourly Start Emissions (Tons) (From BURDEN2002)			24.15		
Input Run Emissions (Grams/Mile) (FROM EMFAC2002) (@ 40 Degrees F)					
3 MPH	9.538		Average Total Emissions	3 mph	10.82
4 MPH	9.202		Grams per Mile	4 mph	10.48
5 MPH	8.89			5 mph	10.17
10 MPH	7.189			6 mph	9.83
15 MPH	6.027			7 mph	9.49
20 MPH	5.205			8 mph	9.15
25 MPH	4.61			9 mph	8.81
30 MPH	4.176			10 mph	8.47
35 MPH	3.864			11 mph	8.24
OUTPUT PARAMETERS				12 mph	8.01
Average Idle Emissions (Grams/Mile)		0.005811		13 mph	7.77
Average Start Emissions (Grams/Mile)		1.275711		14 mph	7.54
				15 mph	7.31
				16 mph	7.14
				17 mph	6.98
				18 mph	6.82
				19 mph	6.65
				20 mph	6.49
				21 mph	6.37
				22 mph	6.25
				23 mph	6.13
				24 mph	6.01
				25 mph	5.89
				26 mph	5.80
				27 mph	5.72
				28 mph	5.63
				29 mph	5.54
				30 mph	5.46
				31 mph	5.40
				32 mph	5.33
				33 mph	5.27
				34 mph	5.21
				35 mph	5.15

MODEL RESULTS FOR FILE VER2230A

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D	E	F	G	H
RECPT 1	3.3	188	0.2	1.4	0.2	0.0	0.0	0.0	0.2	0.1
RECPT 2	3.0	352	0.0	0.3	1.1	0.2	0.1	0.3	0.0	0.0
RECPT 3	2.6	81	0.0	0.5	0.0	0.0	0.0	0.0	0.3	0.0
RECPT 4	3.1	97	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) I	J	K	L	M	N	O	P
RECPT 1	3.3	188	0.0	0.0	0.3	0.0	0.0	0.9	0.0	0.0
RECPT 2	3.0	352	0.0	0.0	0.4	0.0	0.0	0.6	0.0	0.0
RECPT 3	2.6	81	0.0	0.1	0.7	0.1	0.2	0.7	0.0	0.0
RECPT 4	3.1	97	0.0	0.0	0.3	0.2	0.2	1.5	0.1	0.0

0.0	0.0	0.0	*	*	*	*	*	*
-7.3	150.0	-7.3	0.0	*	*	*	*	*
"Southbound"	1.0	776	6.54	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-7.3	0.0	-7.3	-150.0	*	*	*	*	*
"Southbound"	1.0	776	5.69	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-7.3	-150.0	-7.3	-750.0	*	*	*	*	*
"Eastbound"	1.0	1251	5.92	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-750.0	-7.3	-150.0	-7.3	*	*	*	*	*
"Eastbound"	1.0	1251	9.10	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	-7.3	0.0	-7.3	*	*	*	*	*
"Eastbound"	1.0	1318	6.42	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	-7.3	150.0	-7.3	*	*	*	*	*
"Eastbound"	1.0	1318	5.92	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	-7.3	750.0	-7.3	*	*	*	*	*
"Westbound"	1.0	1885	5.92	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
750.0	7.3	150.0	7.3	*	*	*	*	*
"Westbound"	1.0	1885	11.11	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	7.3	0.0	7.3	*	*	*	*	*
"Westbound"	1.0	1883	8.06	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	7.3	-150.0	7.3	*	*	*	*	*
"Westbound"	1.0	1883	5.92	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	7.3	-750.0	7.3	*	*	*	*	*
17.6	17.6	1.8	*	*	*	*	*	*
17.6	-17.6	1.8	*	*	*	*	*	*
-17.6	-17.6	1.8	*	*	*	*	*	*
-17.6	17.6	1.8	*	*	*	*	*	*

MODEL RESULTS FOR FILE VERCAROA

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D	E	F	G	H
RECPT 1	3.5	262	0.0	0.0	0.6	0.0	0.0	0.3	0.0	0.0
RECPT 2	3.1	352	0.0	0.3	1.0	0.2	0.2	0.3	0.0	0.0
RECPT 3	2.9	80	0.0	0.5	0.0	0.0	0.0	0.0	0.3	0.0
RECPT 4	3.6	98	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) I	J	K	L	M	N	O	P
RECPT 1	3.5	262	0.3	0.3	0.0	0.0	0.0	0.5	1.2	0.2
RECPT 2	3.1	352	0.0	0.0	0.5	0.0	0.0	0.7	0.0	0.0
RECPT 3	2.9	80	0.0	0.3	0.7	0.1	0.3	0.7	0.0	0.0
RECPT 4	3.6	98	0.0	0.0	0.2	0.3	0.2	1.7	0.3	0.0

Title (8 Letters)		"VERCAR0P"		Year	2010				
Intersection	N/S	VERMONT		E/W	CARSON		Period	P.M.	

	# Lanes	# Thru Lane:	Left	Volumes In Through	Right	Vol In	Veh/Lane	Posted Speed
"Northbound"	4	2	107	476	278	861	431	40
"Southbound"	4	2	182	870	232	1284	642	40
"Eastbound"	4	2	130	1659	131	1920	960	35
"Westbound"	4	2	117	1233	129	1479	740	35

					Vol Out	Veh/Lane	Posted Speed
Total Volume	5,544	% Red Time		"Northbound"	735	368	40
% N/S	39	60		"Southbound"	1118	559	40
% E/W	61	40		"Eastbound"	2119	1060	35
				"Westbound"	1572	786	35

	Lane Width	Lane Centerline		Receptor Locations		
North	17.6	7.3	N/E	17.6	17.6	1.8
South	17.6	-7.3	S/E	17.6	-17.6	1.8
East	17.6	-7.3	S/W	-17.6	-17.6	1.8
West	17.6	7.3	N/W	-17.6	17.6	1.8

"VERCAR0P"	4	16	2	*	*	*	*	*
1	108	0	0	0	"G"	*	*	*
0	0.5	28	1000	0	4	10	*	*
"Northbound"	1.0	861	5.40	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
7.3	-750.0	7.3	-150.0	*	*	*	*	*
"Northbound"	1.0	861	9.83	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
7.3	-150.0	7.3	0.0	*	*	*	*	*
"Northbound"	1.0	735	6.25	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
7.3	0.0	7.3	150.0	*	*	*	*	*
"Northbound"	1.0	735	5.40	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
7.3	150.0	7.3	750.0	*	*	*	*	*
"Southbound"	1.0	1284	5.40	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-7.3	750.0	-7.3	150.0	*	*	*	*	*
"Southbound"	1.0	1284	10.82	17.6	*	*	*	*

0.0	0.0	0.0	*	*	*	*	*	*
-7.3	150.0	-7.3	0.0	*	*	*	*	*
"Southbound"	1.0	1118	7.31	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-7.3	0.0	-7.3	-150.0	*	*	*	*	*
"Southbound"	1.0	1118	5.40	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-7.3	-150.0	-7.3	-750.0	*	*	*	*	*
"Eastbound"	1.0	1920	5.63	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-750.0	-7.3	-150.0	-7.3	*	*	*	*	*
"Eastbound"	1.0	1920	10.82	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	-7.3	0.0	-7.3	*	*	*	*	*
"Eastbound"	1.0	2119	10.82	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	-7.3	150.0	-7.3	*	*	*	*	*
"Eastbound"	1.0	2119	5.63	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	-7.3	750.0	-7.3	*	*	*	*	*
"Westbound"	1.0	1479	5.63	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
750.0	7.3	150.0	7.3	*	*	*	*	*
"Westbound"	1.0	1479	9.49	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	7.3	0.0	7.3	*	*	*	*	*
"Westbound"	1.0	1572	6.37	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	7.3	-150.0	7.3	*	*	*	*	*
"Westbound"	1.0	1572	5.63	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	7.3	-750.0	7.3	*	*	*	*	*
17.6	17.6	1.8	*	*	*	*	*	*
17.6	-17.6	1.8	*	*	*	*	*	*
-17.6	-17.6	1.8	*	*	*	*	*	*
-17.6	17.6	1.8	*	*	*	*	*	*

Title (8 Letters)		"VER2230A"		Year	2010				
Intersection	N/S	VERMONT		E/W		223RD		Period	A.M.

	# Lanes	# Thru Lane:	Left	Volumes In Through	Right	Vol In	Veh/Lane	Posted Speed
"Northbound"	3	2	113	1029	195	1337	669	40
"Southbound"	3	2	214	417	79	710	355	40
"Eastbound"	3	2	69	623	47	739	370	35
"Westbound"	3	2	224	798	392	1414	707	35

				Vol Out	Veh/Lane	Posted Speed
Total Volume	4,200	% Red Time	"Northbound"	1490	745	40
% N/S	49	50	"Southbound"	688	344	40
% E/W	51	50	"Eastbound"	1032	516	35
			"Westbound"	990	495	35

	Lane Width	Lane Centerline		Receptor Locations		
North	14.0	5.5	N/E	14.0	14.0	1.8
South	14.0	-5.5	S/E	14.0	-14.0	1.8
East	14.0	-5.5	S/W	-14.0	-14.0	1.8
West	14.0	5.5	N/W	-14.0	14.0	1.8

"VER2230A"	4	16	2	*	*	*	*	*
1	108	0	0	0	"G"	*	*	*
0	0.5	28	1000	0	4	10	*	*
"Northbound"	1.0	1337	5.69	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	-750.0	5.5	-150.0	*	*	*	*	*
"Northbound"	1.0	1337	10.46	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	-150.0	5.5	0.0	*	*	*	*	*
"Northbound"	1.0	1490	7.83	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	0.0	5.5	150.0	*	*	*	*	*
"Northbound"	1.0	1490	5.69	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
5.5	150.0	5.5	750.0	*	*	*	*	*
"Southbound"	1.0	710	5.69	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	750.0	-5.5	150.0	*	*	*	*	*
"Southbound"	1.0	710	8.76	14.0	*	*	*	*

0.0	0.0	0.0	*	*	*	*	*	*
-5.5	150.0	-5.5	0.0	*	*	*	*	*
"Southbound"	1.0	688	6.30	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	0.0	-5.5	-150.0	*	*	*	*	*
"Southbound"	1.0	688	5.69	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-5.5	-150.0	-5.5	-750.0	*	*	*	*	*
"Eastbound"	1.0	739	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-750.0	-5.5	-150.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	739	8.76	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	-5.5	0.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	1032	6.54	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	-5.5	150.0	-5.5	*	*	*	*	*
"Eastbound"	1.0	1032	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	-5.5	750.0	-5.5	*	*	*	*	*
"Westbound"	1.0	1414	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
750.0	5.5	150.0	5.5	*	*	*	*	*
"Westbound"	1.0	1414	11.11	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
150.0	5.5	0.0	5.5	*	*	*	*	*
"Westbound"	1.0	990	6.42	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
0.0	5.5	-150.0	5.5	*	*	*	*	*
"Westbound"	1.0	990	5.92	14.0	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-150.0	5.5	-750.0	5.5	*	*	*	*	*
14.0	14.0	1.8	*	*	*	*	*	*
14.0	-14.0	1.8	*	*	*	*	*	*
-14.0	-14.0	1.8	*	*	*	*	*	*
-14.0	14.0	1.8	*	*	*	*	*	*

MODEL RESULTS FOR FILE VER2230A

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D	E	F	G	H
RECPT 1	3.3	188	0.2	1.4	0.2	0.0	0.0	0.0	0.2	0.1
RECPT 2	3.0	352	0.0	0.3	1.1	0.2	0.1	0.3	0.0	0.0
RECPT 3	2.6	81	0.0	0.5	0.0	0.0	0.0	0.0	0.3	0.0
RECPT 4	3.1	97	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) I	J	K	L	M	N	O	P
RECPT 1	3.3	188	0.0	0.0	0.3	0.0	0.0	0.9	0.0	0.0
RECPT 2	3.0	352	0.0	0.0	0.4	0.0	0.0	0.6	0.0	0.0
RECPT 3	2.6	81	0.0	0.1	0.7	0.1	0.2	0.7	0.0	0.0
RECPT 4	3.1	97	0.0	0.0	0.3	0.2	0.2	1.5	0.1	0.0

MODEL RESULTS FOR FILE VERCAR0P

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	A	B	C	D	E	F	G	H
			COCN/LINK (PPM)							
RECPT 1	3.0	260	0.0	0.0	0.3	0.0	0.0	0.5	0.0	0.0
RECPT 2	3.7	278	0.0	0.5	0.0	0.0	0.0	0.0	0.3	0.0
RECPT 3	4.0	82	0.0	0.3	0.0	0.0	0.0	0.0	0.4	0.0
RECPT 4	3.5	99	0.0	0.0	0.2	0.0	0.0	0.8	0.0	0.0

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	I	J	K	L	M	N	O	P
			COCN/LINK (PPM)							
RECPT 1	3.0	260	0.3	0.7	0.0	0.0	0.0	0.4	0.8	0.1
RECPT 2	3.7	278	0.2	1.7	0.5	0.0	0.0	0.0	0.3	0.3
RECPT 3	4.0	82	0.0	0.5	1.8	0.2	0.3	0.4	0.0	0.0
RECPT 4	3.5	99	0.0	0.0	0.7	0.3	0.1	1.2	0.2	0.0

Title (8 Letters)		"VERCAR0A"		Year	2010			
Intersection	N/S	VERMONT		E/W	CARSON		Period	A.M.

	# Lanes	# Thru Lane:	Left	Volumes In Through	Right	Vol In	Veh/Lane	Posted Speed
"Northbound"	4	2	152	998	166	1316	658	40
"Southbound"	4	2	108	505	219	832	416	40
"Eastbound"	4	2	121	1044	86	1251	626	35
"Westbound"	4	2	185	1512	188	1885	943	35

				Vol Out	Veh/Lane	Posted Speed
Total Volume	5,284	% Red Time	"Northbound"	1307	654	40
% N/S	41	60	"Southbound"	776	388	40
% E/W	59	40	"Eastbound"	1318	659	35
			"Westbound"	1883	942	35

	Lane Width	Lane Centerline		Receptor Locations		
North	17.6	7.3	N/E	17.6	17.6	1.8
South	17.6	-7.3	S/E	17.6	-17.6	1.8
East	17.6	-7.3	S/W	-17.6	-17.6	1.8
West	17.6	7.3	N/W	-17.6	17.6	1.8

"VERCAR0A"	4	16	2	*	*	*	*	*
1	108	0	0	0	"G"	*	*	*
0	0.5	28	1000	0	4	10	*	*
"Northbound"	1.0	1316	5.69	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
7.3	-750.0	7.3	-150.0	*	*	*	*	*
"Northbound"	1.0	1316	11.11	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
7.3	-150.0	7.3	0.0	*	*	*	*	*
"Northbound"	1.0	1307	9.10	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
7.3	0.0	7.3	150.0	*	*	*	*	*
"Northbound"	1.0	1307	5.69	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
7.3	150.0	7.3	750.0	*	*	*	*	*
"Southbound"	1.0	832	5.69	17.6	*	*	*	*
0.0	0.0	0.0	*	*	*	*	*	*
-7.3	750.0	-7.3	150.0	*	*	*	*	*
"Southbound"	1.0	832	10.12	17.6	*	*	*	*

APPENDIX B
NOISE STUDY

NOISE STUDY
FOR
HARBOR-UCLA MEDICAL CENTER
SURGERY/EMERGENCY FACILITY REPLACEMENT

Prepared for:

County of Los Angeles
Department of Public Works

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Prepared by:

Synectecology and Michael Brandman Associates

Contact: Michael E. Houlihan, AICP
(714) 258-8100

May 2005

NOISE STUDY FOR HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

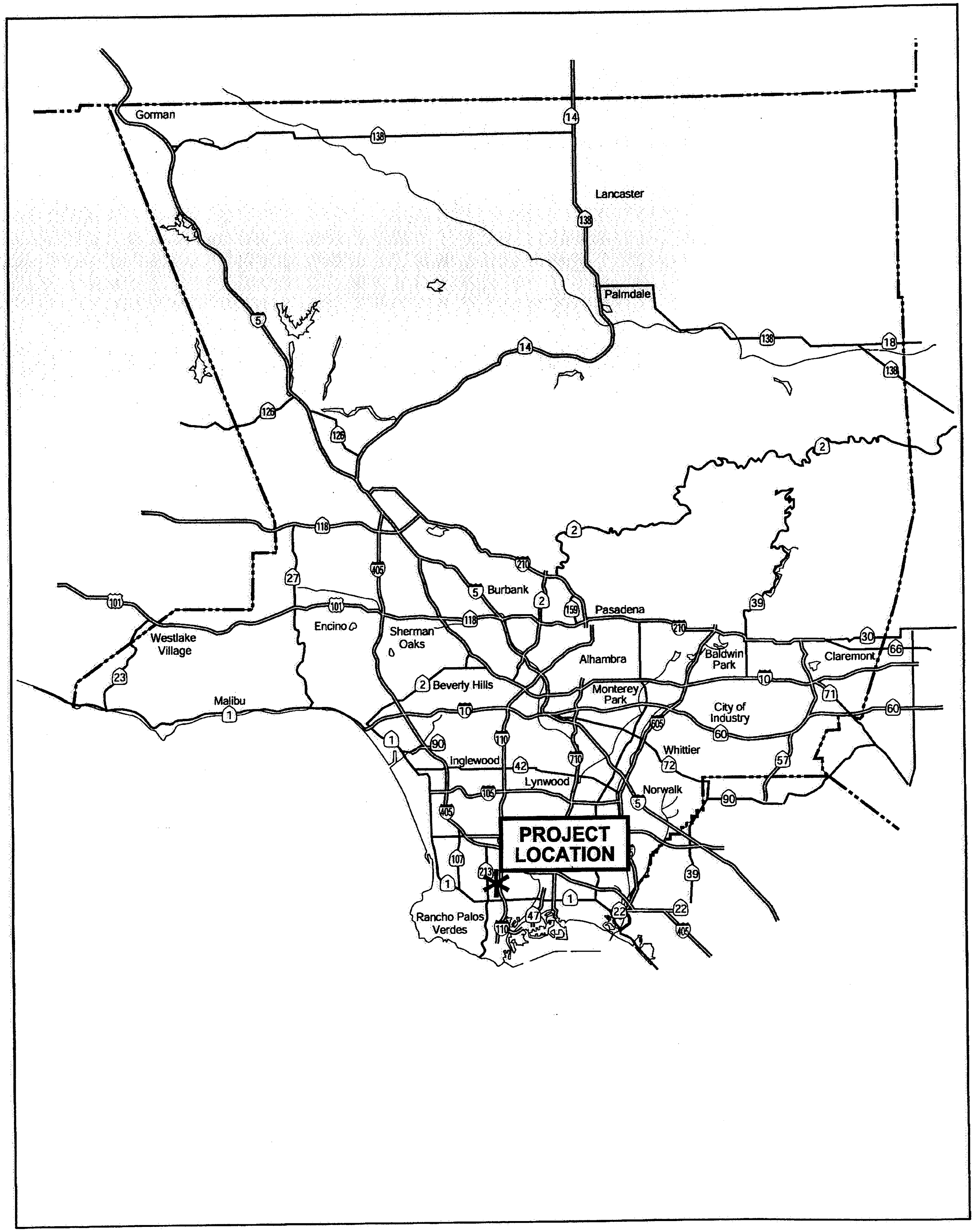
The County of Los Angeles Department of Public Works is proposing the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement project. The project site encompasses approximately 17 acres of which approximately 16.5 acres are located in the northeast portion of the existing Harbor-UCLA Medical Center campus. Approximately 0.5 acre is located in the southwest portion of the campus. The entire campus encompasses approximately 72 acres of unincorporated land in southern Los Angeles County, between the cities of Torrance, Los Angeles, and Carson. Occupying a large rectangular block, the campus is roughly a half-mile by a quarter mile in size (see Exhibits 1 and 2).

The proposed project is a part of the implementation of the Harbor-UCLA Medical Center Master Plan prepared in 1985. The master plan seeks to optimize the efficiency and capability of the Medical Center through better organization and separation of inpatient and outpatient services, major space additions, and reallocation of existing space. Accordingly, the County of Los Angeles is proposing to expand the Harbor-UCLA Medical Center by constructing a new Surgery/Emergency Building on the existing hospital campus. The expansion building would include two stories and a basement and be approximately 190,300 square feet with a maximum height of 34-feet 3-inches (see Exhibit 3). The existing emergency and surgery departments would be relocated into the proposed building, which would be constructed on the southwest side of the existing hospital.

A new elevator tower is also proposed to improve circulation from the existing hospital to the proposed facility. This new tower would be attached to the west end of the existing 133-foot nine-story tower adjacent to the existing hospital and would have a maximum height of 131 feet, 6 inches.

The proposed project also includes the reconstruction of the existing helistop and the construction of a temporary helistop that would operate during project construction activities. Finally, the proposed project includes a reconfiguration of the onsite parking lot and the relocation of the main public entrance on Carson Street.

Following is the Noise Study for the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement project.



Michael Brandman Associates

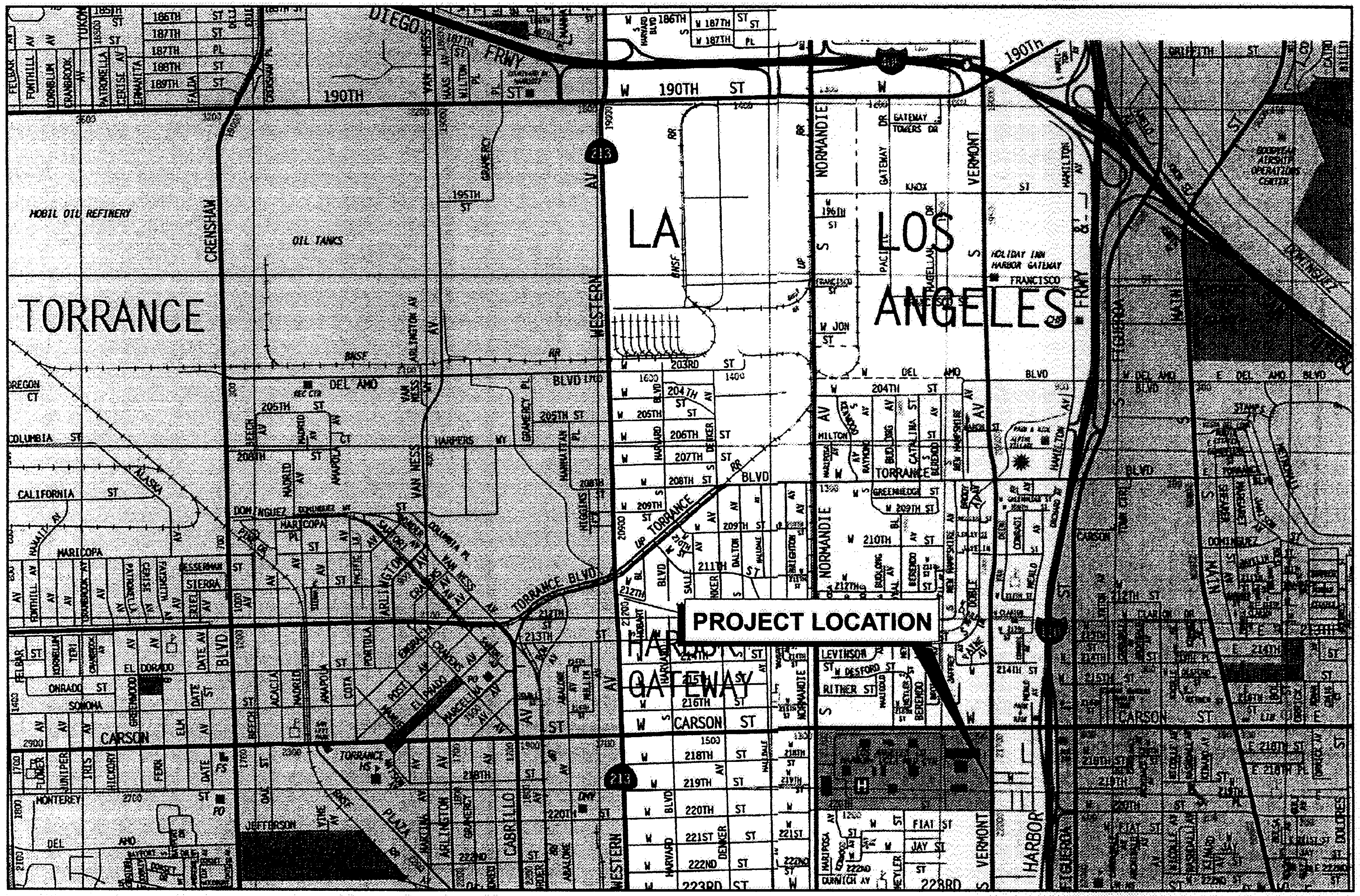
NORTH

Exhibit **1**

Regional Location Map

23380001 • 3/2002

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT



SOURCE: The Thomas Guide, Los Angeles and Orange Counties, 2002.

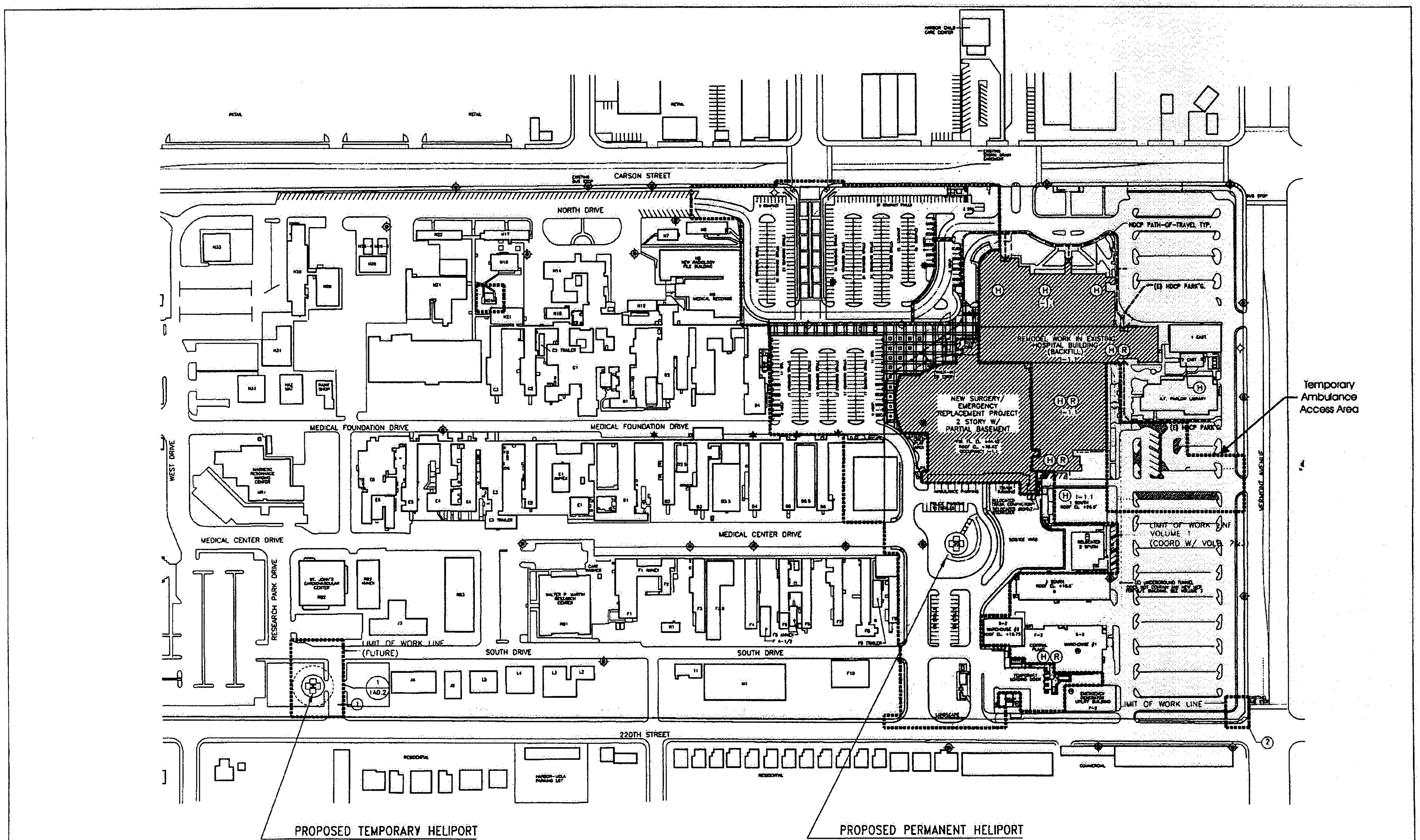
NORTH

1740 870 0 1740
SCALE IN FEET

Exhibit 2
Local Vicinity Map

23380001 • 2/2002

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT



SOURCE: Leo A. Daly, Planning and Architectural Engineering, April 2005.

NORTH

NOT TO SCALE

Legend

▪▪▪▪▪ Project Site

Exhibit 3
Site Plan

1.0 Existing Setting

1.1 Background Discussion

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Typical human hearing can detect changes in sound levels of approximately 3 dBA under normal conditions. Changes of 1 to 3 dBA are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is typically noticeable to most people in an exterior environment whereas a change of 10 dBA is perceived as a doubling (or halving) of the noise.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Noise may be generated from a point source, such as a piece of construction equipment, or from a line source, such as a road containing moving vehicles. Because noise spreads in an ever-widening pattern, the given amount of noise striking an object, such as an eardrum, is reduced with distance from the source. This is known as "spreading loss." The typical spreading loss for point source noise is 6 dBA per doubling of the distance from the noise source.

A line source of noise, such as vehicles proceeding down a roadway, will also be reduced with distance, but the rate of reduction is a function of both distance and the type of terrain over which the noise passes. Hard sites, such as developed areas with paving, reduce noise at a rate of 3 dBA per doubling of the distance while soft sites, such as undeveloped areas, open space, and vegetated areas reduce noise at a rate of 4.5 dBA per doubling of the distance. These represent the extremes and most areas will actually contain a combination of hard and soft elements with the noise reduction placed somewhere in between these two factors. Unfortunately the only way to actually determine the absolute amount of attenuation that an area provides is through field measurement under operating conditions with subsequent noise level measurements conducted at varying distances from a constant noise source.

Objects that block the line-of-sight attenuate the noise source if the receptor is located within the "shadow" of the blockage (such as behind a sound wall). If a receptor is located behind the wall, but has a view of the source, the wall will do little to reduce the noise. Additionally, a receptor located on the same side of the wall as the noise source may experience a slight increase in the perceived noise level, if the wall were to reflect noise back to the receptor.

Several rating scales (or noise "metrics") exist to analyze adverse effects of noise, including traffic-generated noise, on a community. These scales include the equivalent noise level (Leq), the community noise equivalent level (CNEL), and the day/night noise level (Ldn). Leq is a measurement of the sound energy level averaged over a specified time period (usually 1 hour). Leq represents the amount of variable sound energy received by a receptor over a time interval in a single numerical value. For example, a 1-hour Leq noise level measurement represents the average amount of acoustic energy that occurred in that hour.

Unlike the Leq metric, the CNEL noise metric is based on 24 hours of measurement. CNEL also differs from Leq in that it applies a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when quiet time and sleep disturbance are of particular concern). Noise occurring during the daytime period (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise produced during the evening time period (7:00 to 10:00 p.m.) is penalized by 5 dBA, while nighttime (10:00 p.m. to 7:00 a.m.) noise is penalized by 10 dBA. The Ldn noise metric is similar to the CNEL metric except that the period from 7:00 to 10:00 p.m. receives no penalty. Both the CNEL and Ldn metrics yield approximately the same 24-hour value (within 1 dBA) with the CNEL being the more restrictive of the two.

1.2 Regulatory Environment

County of Los Angeles

The proposed project site is located within an unincorporated portion of the County of Los Angeles and is therefore subject to the General Plan and Noise Element incorporated therein. While the Noise Element does discuss goals and the need to reduce noise, it does not set land use noise compatibility standards. It does, however, refer to the noise ordinance as a way to achieve its goal of reducing noise from all sources. The Los Angeles County Noise Ordinance does include land use compatibility standards and these are codified in Section 12.08.390 of the Ordinance. The current standards are included in Table 1

TABLE 1
COUNTY OF LOS ANGELES LAND USE GUIDELINES FOR EXTERIOR NOISE

Land Use	Exterior Noise Level (dBA)	
	Time Interval	Exterior Noise Level (dBA)
Noise-sensitive area	Anytime	45
Residential Properties	10:00 p.m. – 7:00 a.m. 7:00 a.m. – 10:00 p.m.	45 50
Commercial Properties	10:00 p.m. – 7:00 a.m. 7:00 a.m. – 10:00 p.m.	55 60
Industrial Properties	Anytime	70

In the event that the noise measurement is obtained between two differing land use types, the standard is the arithmetic average of the two uses. These standards are not to be exceeded for a cumulative period of 30 minutes in any hour. However, greater noise levels are permissible for shorter durations. The standards are not to be exceeded by 5 dBA for a cumulative period of 15 minutes in any hour, by 10 dBA for a cumulative period of 5 minutes in any hour, by 15 dBA for a cumulative period of 1 minute in any hour, or by 20 dBA for any period of time. In the event that the ambient noise already exceeds these standards, the allowable noise shall be increased to reflect the ambient noise accordingly.

Section 12.08.070 includes exemptions from the ordinance. Those of relevance include:

- Emergency Exemption. The emission of sound for the purpose of alerting persons to the existence of an emergency, or the emission of sound in the performance of emergency work.
- Warning Devices. Warning devices necessary for the protection of public safety, as for example police, fire, and ambulance sirens.
- Federal or State Preempted Activities. Any activity to the extent regulation thereof has been preempted by state or federal law.
- Construction Activities. Construction activities conducted within the time limitations and restrictions set forth in the Code, and
- Maintenance and Construction Activities. Activities performed anytime on public right-of-way, and those situations which may occur on private real property deemed necessary to serve the best interests of the public's health and well being.

State of California Standards

The California Office of Noise Control has set acceptable noise limits for sensitive uses. Sensitive-type land uses, such as hospitals and homes, are "normally acceptable" in exterior noise environments up to 65 dBA CNEL and "conditionally acceptable" in areas up to 70 dBA CNEL. A "conditionally acceptable" designation implies that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use type is made and needed noise insulation features are incorporated in the design. By comparison, a "normally acceptable" designation indicates that standard construction can occur with no special noise reduction requirements.

Helicopter Noise Standards

The Federal Aviation Administration (FAA) regulates the noise from aircraft. The Aviation Safety and Noise Abatement Act of 1979 required that the FAA establish a single system for measuring and evaluating noise impacts. The FAA chose the Sound Exposure Level (SEL). The individual values of the SEL for each helicopter takeoff, landing, and flyovers are combined and compared against the community noise levels.

The FAA Advisory Circular Number 150-5020-2, entitled "Noise Assessment Guidelines for New Helicopters recommends the use of a cumulative noise measure, the 24-hour equivalent sound level ($Leq_{(24)}$), so that the relative contributions of the heliport and other sound sources within the community may be compared. The $Leq_{(24)}$ is similar to the Ldn used in assessing the impacts of fixed wing aircraft. The helicopter $Leq_{(24)}$ values are obtained by logrithmetically adding the single-event SEL values over a 24-hour period.

Public Law 96-193 also directs the FAA to identify land uses which are "normally compatible" with various levels of noise from aircraft operations. Because of the size and complexity of many major hub airports and their operations, FAR Part 150 identifies a large number of land uses and their attendant noise levels. However, since the operations of most heliports and helistops tend to be much simpler and the impacts more restricted in area, Part 150 does not apply to heliports/helistops not located on airport property. Instead, the FAA recommends exterior noise criteria for individual heliports based on the types of surrounding land uses. These recommended noise levels are included in Table 2. Because of the adjoining residential areas to the south and west, the Harbor-UCLA Medical Center is considered to be an urban residential area.

The maximum recommended cumulative sound level ($Leq_{(24)}$) from the operations of helicopters at any new site should not exceed the ambient noise already present in the community at the site of the proposed heliport. In other words, the $Leq_{(24)}$ should not exceed the values recommended in Table 2., or the locally measured ambient noise level.

TABLE2
NORMALLY COMPATIBLE COMMUNITY SOUND LEVELS

Type of Area	$Leq_{(24)}$
Residential	
Suburban	57
Urban	67
City	72
Commercial	72
Industrial	77
Source: FAA Advisory Circular Number 150-5020-2, 1983	

1.3 Existing Noise Levels

Field Measurements

The project site is located at the existing Harbor-UCLA Medical Center in an unincorporated area of Los Angeles County. The project is to be located north of 220th Street, south of Carson Street, east of Normandie Avenue, and west of Vermont Avenue. Both single and multi-family residential uses are located to the south along 220th Street. Single-family units are also located to the west across Normandie Avenue. A mobile home park is located east of the medical center along Vermont Avenue. Other residential uses and transient lodging are also located along Vermont Avenue. The area to the north across Carson Street includes commercial uses.

To ascertain the existing noise at and adjacent to the project site, field monitoring was conducted on February 20, 2002. The field survey noted that noise within the proposed project area is generally characterized by vehicle traffic.

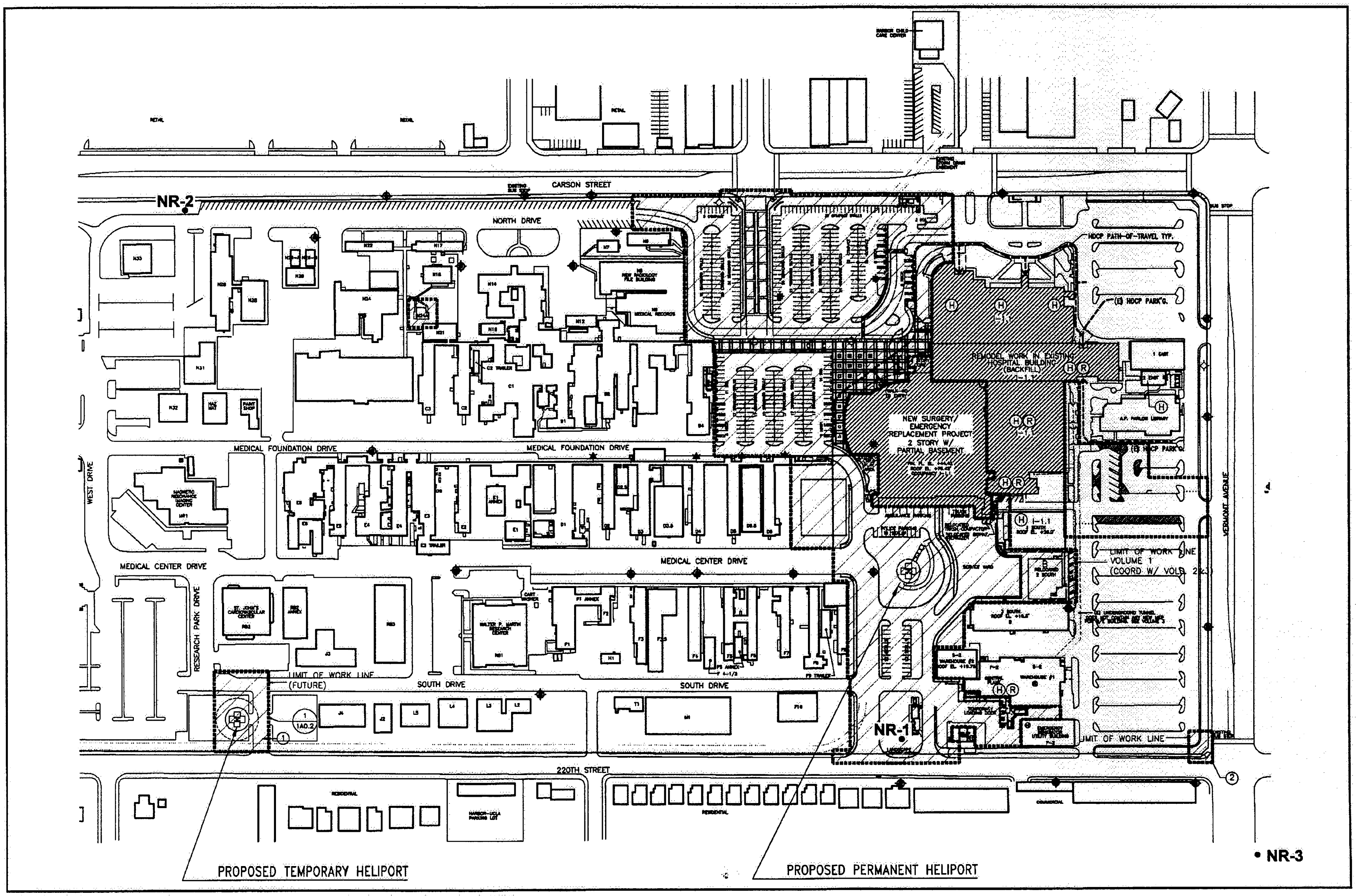
Noise monitoring was performed using a Quest Technologies Model 2900 Type 2 Integrating/logging Sound Level Meter. The unit meets the American National Standards Institute (ANSI) Standard S1.4-1983 for Type 2, International Electrotechnical Commission (IEC) Standard 651 - 1979 for Type 2, and IEC Standard 651 - 1979 for Type 2 sound level meters. The unit was calibrated at 9:50 a.m. using a Quest Technologies QC-10 calibrator immediately prior to the first set of readings. The calibration was then rechecked at 12:07 p.m. after the last reading and no meter "drift" was noted. The accuracy of the calibrator is maintained through a program established through the manufacturer and is traceable to the National Bureau of Standards. The unit meets the requirements of ANSI Standard S1.4-1984 and IEC Standard 942: 1988 for Class 1 equipment.

The study included three noise readings. The Leq, Lmin, Lmax, L_{02}, L_{08}, L_{25}, and L_{50} values were recorded. As discussed above, the Leq value is representative of the equivalent noise level or logarithmic average noise level obtained over the measurement period. The Lmin and Lmax represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second. The L_{02}, L_{08}, L_{25}, and L_{50} represent the values that are exceeded 1, 5, 15, and 30 minutes per hour if the readings were extrapolated out to an hour's duration. All readings were supplemented with simultaneous vehicle counts. These counts were obtained for modeling purposes (discussed below). Monitoring locations are shown in Exhibit 4 and the readings are included in Table 3. Each reading is summarized below.

NR-1 - This reading was obtained on-site along 220th Street just west of the second entrance from the east. This placed the meter across from the single-family residential units located along the south side of 220th Street. The meter was placed at a distance of 50 feet north of the center of travel of northernmost, westbound lane. The meter was also approximately 12.5 feet west of the Medical Center Driveway. The 15-minute reading began at 10:03 a.m. Background noise included vehicles on both 220th Street and those pulling both into and out of the parking lot. Traffic within the lot, the hum of the hospital's cooling towers (approximately 75 feet to the east) as well as aircraft overflights, including one helicopter were also notable. Eastbound traffic along 220th Street included 36 autos and one heavy truck. Westbound traffic included 32 automobiles. The road is posted at 30 mph. Additionally, 13 autos pulled into the lot passing within approximately 46 feet of the meter. Traffic leaving the lot, including 14 autos and two medium trucks passed the meter at a distance of about 25 feet.

NR-2 – To aid in determining the vehicle ratio on the adjoining routes, this reading was obtained on-site along Carson Street. To find an area where a representative traffic reading could be obtained, this reading was obtained near the west end of the facility parking. Specifically, the meter was placed 50 feet south of the centerline of the near, eastbound lane and approximately 530 feet east of Normandie Avenue. A 15-minute reading was obtained from 10:37 a.m. Traffic included 209 autos, 11 medium trucks, and two heavy trucks proceeding eastbound. Westbound traffic included 245 autos, six medium trucks, and two heavy trucks. Additionally, 23 autos and one medium truck in the parking lot were observed to pass within about 18 feet behind the meter. Other sources of ambient noise included aircraft overflights, including two helicopters, and a car alarm sounding in the lot.

NR-3 – This reading was obtained in the visitor parking area of the condominium development located along the east side of Vermont Avenue approximately 220 feet north of 223rd Street. The site would be representative of the various land uses located along Vermont. The meter was located at a distance of 50 feet east of the centerline of the near, northbound lane. The 15-minute measurement was obtained from 11:33 a.m. Northbound traffic during this period included 108 autos, three medium trucks, and two heavy trucks. Southbound traffic included 128 automobiles, seven medium trucks, and three heavy trucks. Additionally, six autos were observed to pass the meter in the parking lot at a distance of about 10 feet. Other sources of noise included trucks traveling along 223rd Street to the south.



SOURCE: Leo A. Daly, Planning and Architectural Engineering, April 2005.

NORTH

NOT TO SCALE

Legend

▪▪▪▪▪ Project Site

Exhibit 4
Noise Monitoring Locations

2338RS02 • 06/2005 | 4_noise_monitoring_locations.cdr

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

TABLE 3
NOISE LEVEL MEASUREMENTS[1]

Monitoring Location	Leq (dBA)	L_{02} (dBA)	L_{08} (dBA)	L_{25} (dBA)	L_{50} (dBA)	Lmin (dBA)	Lmax (dBA)
NR-1	59.8	67.9	64.3	59.8	56.0	48.1	73.5
NR-2	65.5	71.8	69.3	66.7	63.0	51.6	78.2
NR-3	65.6	72.8	69.4	66.0	62.5	51.2	81.6

[1] The Leq represents the equivalent sound level and is the numeric value of a constant level that over the given period of time transmits the same amount of acoustic energy as the actual time-varying sound level. The L_{02}, L_{08}, L_{25}, and L_{50} are the levels that are exceeded 2, 8, 25, and 50 percent of the time, respectively. Alternatively, these values represent the noise level that would be exceeded for 1, 5, 15, and 30 minutes during a 1-hour period. The Lmin and Lmax represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second.

1.4 Modeling of Observed Field Data

Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system. Reducing the average motor vehicle speed reduces the noise exposure of receptors adjacent to the road. Each reduction of 5 mph reduces noise by 1 to 2 dBA.

The Caltrans Sound32 version of the Federal Highway Administration traffic noise prediction model (Sound32 – Release 07/30/91) was used to evaluate traffic-related noise conditions in the vicinity of the project site. The model predicts 1-hour Leq noise levels and a correction factor has been applied to provide the CNEL noise levels. These latter values were used in assessing potential mobile-source impacts from the proposed facility on local receptors.

The model uses various parameters including the traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels. Sound32 modeling was prepared for the number of vehicles and logistics observed during the field readings. The results of this analysis are included in Table 4 demonstrating the model's applicability. When one considers extraneous noise that was not created by vehicles, soft site modeling would appear to be more representative of local conditions. The slight discrepancy for soft site modeling with reading NR-1 may be due in part the vehicles exiting the lot that were observed to idle near the meter until they were able to merge into traffic.

TABLE 4
NOISE LEVEL MEASUREMENTS VERSUS PREDICTED MODEL RESULTS[1]

Monitoring Location	Measured Leq (dBA)	Modeled Leq (dBA)	Difference (dBA)
NR-1 (Soft Site)	59.8	58.6	1.2
NR-1 (Hard Site)	59.8	59.8	0.0
NR-2 (Soft Site)	65.5	65.9	0.4
NR-2 (Hard Site)	65.5	67.5	2.0
NR-3 (Soft Site)	65.6	64.9	0.7
NR-3 (Hard Site)	65.6	66.6	1.0

[1] NR-1, -2, and -3 are based on posted speeds of 30, 35, and 40 mph, respectively.

Modeling of Existing Traffic Volumes

In order to assess the potential for mobile-source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the area. Average daily traffic (ADT) volumes were based on the existing daily traffic volumes provided in the traffic study provided by Kaku Associates (*Traffic Study for the Harbor-UCLA Medical Center Surgery/Emergency Replacement Project*, February 2005) (traffic study). To determine the CNEL noise level produced by this traffic, the percentage contribution from each hour of traffic was determined from a Los Angeles County, year 2005 run of the California Air Resources Board (CARB) EMFAC2002 computer model (BURDEN2002 module) distributed by the California Air Resources Board. The model predicts the volume of vehicles and miles generated for each of the 24 hours of the day. The ratio of each hour of traffic to the total daily traffic was then calculated from the model data. Traffic between the hours of 7:00 p.m. and 10:00 p.m. was assigned a 5-dBA penalty whereas the traffic predicted between 10:00 p.m. and 7:00 a.m. was assigned a 10-dBA penalty. The resultant noise associated with each hour was then logarithmically summed and averaged so that a correction factor could be ascertained and applied to the entire volume of traffic as if it were to occur in a 1-hour period. Under these premises, this CNEL value is 10.2 dBA less than the model results that are predicted if the entirety of the ADT volume were modeled to occur in a 1-hour period. As such, the CNEL can be represented by modeling the ADT as if it were to occur in a 1-hour period and subtracting 10.2 dBA from the resultant value.

For the purposes of this analysis, the ratio of automobiles, medium trucks, and heavy trucks is as averaged from the vehicle counts observed in the field study and includes 95.11 percent automobiles, 3.64 percent medium trucks, and 1.25 percent heavy trucks. Vehicle speeds are as posted. Table 5 presents the projected noise levels along site access roads in the project area as well as the distances to the 70, 65, and 60 dBA CNEL noise contours as based on soft site modeling.

TABLE 5
EXISTING NOISE LEVELS ALONG SITE ACCESS ROADS

Location	ADT	Speed (mph)	CNEL (dBA @ 50 feet)	Distance to 70 dBA CNEL (feet)	Distance to 65 dBA CNEL (feet)	Distance to 60 dBA CNEL (feet)
Carson Street						
Normandie – Berendo	38,700	35	71.1	59	128	275
Berendo – Vermont	41,200	35	71.4	62	134	288
Vermont – I-110	45,100	35	71.8	79	171	368
Vermont Avenue						
S/O Carson	20,000	40	69.6	<50	101	218

2.0 Project Impacts

The generation of noise associated with the proposed project would occur over the short-term for site preparation and construction activities to implement the proposed project. Additionally, noise associated with the temporary relocation of the helistop would raise short-term noise its vicinity. Finally, noise would result from the long-term operation of the project. Both short-term and long-term noise impacts associated with the project are examined in this analysis.

2.1 Thresholds of Significance

Noise impacts can be broken down into three categories. The first is "audible" impacts, which refers to increases in noise level that are perceptible to humans. Audible increases in noise levels generally refer to a change of 3 dBA or more since this level has been found to be barely perceptible in exterior environments. The second category, "potentially audible," refers to a change in noise level between 1 and 3 dBA. This range of noise levels was found to be noticeable to sensitive people in laboratory environments. The last category includes changes in noise level of less than 1 dBA that are typically "inaudible" to the human ear except under quiet conditions in controlled environments. Only "audible" changes in noise level are considered potentially significant.

For stationary sources, the applicable noise standards include criteria established by local as well as any State regulations applicable to the proposed project. Mobile-source noise (i.e., vehicle noise) is preempted from local regulation. Here an impact is considered significant if the project would create an audible increase (i.e., 3 dBA CNEL) in the ambient noise.

2.2 Standard Conditions and Uniform Codes

All projects constructed in the County of Los Angeles are subject to standard conditions set forth in the Municipal Code. Compliance with these provisions is mandatory and as such, does not constitute mitigation under CEQA. Conditions specific to noise are included below:

- Section 12.08.570 A which exempts noise associated with emergency work,
- Section 12.08.570 B which exempts noise associated with warning devices, and
- Section 12.08.570 D which exempts construction activities conducted within the time restrictions set forth in the Code, and
- Section 12.08.570 H which exempts maintenance and construction activities anytime on public right-of-way, and those situations which may occur on private real property deemed necessary to serve the best interests of the public's health and well being.

2.3 Impacts

Short-Term, Construction-Related Impacts

Noise levels associated with construction activities would be higher than the ambient noise levels in the project area today, but would subside once construction of the proposed project is completed.

Two types of noise impacts could occur during the construction phase. First, the transport of workers and equipment to the construction site would incrementally increase noise levels along site access roadways. Even though there could be a relatively high single event noise exposure potential with passing trucks (a maximum noise level of 86 dBA at 50 feet), the increase in noise would be less than 1 dBA when averaged over a 24-hour period, and would therefore have a less than significant impact on noise receptors along the truck routes.

The second type of impact is related to noise generated by on-site construction operations and local residents and hospital patents could be subject to elevated noise levels due to the operation of this equipment. Construction activities are carried out in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow noise ranges to be categorized by work phase. Table 6 lists typical construction equipment noise levels recommended for noise impact assessment at a distance of 50 feet.

The grading and site preparation phase tends to create the highest noise levels, because the noisiest construction equipment is found in the earthmoving equipment category. This category includes excavating machinery (backfillers, bulldozers, draglines, front loaders, etc.) and earthmoving and compacting equipment (compactors, scrapers, graders, etc.) Typical operating cycles may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Noise levels at 50 feet from earthmoving equipment range from 73 to 96 dBA while Leq noise levels range up to about 89 dBA. The later construction of structures is somewhat reduced from these values and the physical presence of the structure may break up line-of-sight noise propagation.

TABLE 6
NOISE ASSOCIATED WITH TYPICAL CONSTRUCTION EQUIPMENT

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)	Suggested Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000-18,000 ft-lb/blow	81-96	93
Rock Drills	83-99	96
Jack Hammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	68-80	77
Dozers	85-90	88
Tractor	77-82	80
Front-End Loaders	86-90	88
Hydraulic Backhoe	81-90	86
Hydraulic Excavators	81-90	86
Graders	79-89	86
Air Compressors	76-86	86
Trucks	81-87	86

Source: Noise Control for Buildings and Manufacturing Plants, BBN 1987.

Residential units are located to the south across 220th Street, to the east across Vermont Avenue, and to the west across Normandie Avenue. Additionally, the hospital of itself is considered as a somewhat sensitive land use. When one considers the replacement of the paved area, the nearest receptors located across 220th Street are approximately 70 feet from the nearest construction effort. Based on an Leq value of 89 dBA as measured at a distance of 50 feet, resultant noise levels could be on the order of 86 dBA Leq at these structures. The nearest construction effort associated with the temporary helistop is approximately 100 feet from the nearest residents located along the south side of 220th Street and noise from this construction is estimated at about 83 dBA Leq. The nearest receptors located in the trailer park across Vermont are located approximately 450 feet from the nearest site construction. Again using an Leq of 89 dBA for construction, the resultant noise level is estimated at 70 dBA Leq. The residents across Normandie are located in excess of 1,500 feet of construction of the facility and parking area and noise from this construction would be under 60 dBA Leq. Construction of the helistop is in excess of 750 feet from these residents with the resultant noise level estimated at 65 dBA Leq.

These values reflect the maximum Leq noise levels anticipated at the receptors. However, during the vast majority of the construction period, noise levels at the receptors would be 30 to 40 dBA lower than the presented values due to lower power settings and sound attenuation effect provided by longer distances and partial blocking both from existing structures, and the proposed structure. This range of noise levels is considered acceptable during daytime hours. Ambient noise levels in the project vicinity would increase during construction phase, but would drop considerably after construction of the proposed facility is completed.

The County recognizes that the control of construction noise is difficult at best and provides exemption for this type of noise when the work is performed "to serve the best interests of the public's health and well being." To further reduce construction noise, County Staff should requires that the following project commitments be followed to the extent feasible.

- All construction equipment shall be properly maintained and tuned to minimize noise emissions,
- All equipment shall be fitted with properly operating mufflers and air intake silencers no less efficient than those originally installed,
- All stationary noise sources (e.g., generators and compressors) shall be located as far from the adjacent residential receptor and sensitive hospital uses as is feasible,
- Normal construction working hours will be restricted to the hours of 7:00 a.m. to 5:00 p.m. on weekdays. Work outside of these hours will have to be approved by the County of Los Angeles

Department of Public Works. These days and hours shall also apply any servicing of equipment and to the delivery of materials to or from the site, and

- Construction shall be subject to any and all provisions set forth by the County of Los Angeles Planning Department.

Implementation of these commitments will ensure that any impacts remain less than significant.

Another potential impact of construction is that of vibration. Groundborne vibration is typically associated with blasting operations and potentially, the use of pile drivers, neither of which would be necessary for the construction (or operation) of the project. As such, no excessive groundborne vibrations would be created by the proposed project and any impact would be less than significant.

Temporary Helistop Operations

Another potential short-term impact is from the noise associated with the temporary relocation of the helistop to the southwestern portion of the premises. Impacts due to the use of this helistop have been addressed under cover of a separate noise analysis and have been found to be less than significant.

Long-Term Operational Impacts

Long-term noise impacts are those associated with mobile sources. Impacts on existing land uses may be produced from the addition of project-generated vehicle traffic. Additionally, the project could result in a significant noise impact if it is sited a sensitive land use in an incompatible area.

Off-site Project-Generated Impacts

The project would generate as many as 246 new vehicle trips per day. Noise modeling was conducted using the Caltrans Sound32 Noise Model (CALVENO version) to determine if the project would generate a volume of traffic sufficient to raise ambient noise by an significant level. ADT volumes are as provided by Kaku Associates. Vehicle mix, day/evening/night split, and average speeds are as indicated in the analysis of the existing noise levels. As a worst case scenario, this analysis considers the impact of the cumulative, with project, scenario and compares these noise levels with the existing ambient noise levels. Results of the modeling effort are included in Table 7. Note that modeling indicates that the noise increase could be as much as 0.3 dBA CNEL. This value is less than audible and well under the 3-dBA criterion level. As such, the impact is less than significant. Because the cumulative, with project, analysis shows less than a significant impact, it is not necessary to determine the project's contribution to the existing noise which would be even smaller than the 0.3 dBA increase noted in this analysis.

TABLE 7
EXISTING VERSUS CUMULATIVE, WITH PROJECT, NOISE LEVELS ALONG SITE ACCESS ROADS

Location	Existing ADT	Existing CNEL (dBA @ 50 feet)	Cumulative, With Project ADT	Cumulative CNEL (dBA @ 50 feet)	Difference (dBA @ 50 feet)
Carson Street					
Normandie - Berendo	38,700	71.1	40,900	71.4	0.3
Berendo – Vermont	41,200	71.4	43,700	71.7	0.3
Vermont – I-110	45,100	71.8	48,000	72.1	0.3
Vermont Avenue					
S/O Carson	20,000	69.6	21,100	69.8	0.2

Helistop Noise

The project would result in modifications to the existing helistop. The pad would retain its original position, but would be raised by 14 feet. As helicopters ascend and descend vertically, raising the pad slightly would not alter its associated noise characteristics from those existing at this time. At its nearest point, the pad is over 400 feet from the nearest residents located to the south across 220th Street. As operation of the temporary helistop (located at less than 150 feet from the nearest residents) would not create a significant impact, noise levels associated with the permanent pad would be even lower by virtue of the extended distance and also would be less than significant. As such, no formal analysis is warranted.

On-site Impacts

An impact may also be significant if the project sites a land use in an incompatible area due to excessive noise. The County sets a maximum desirable daytime level of 60 dBA for commercial land uses and a nighttime limitation of 55 dBA. These values are based on the hourly Leq noise descriptor.

To determine if a potentially significant impact would occur at the proposed facility, Sound32 noise modeling was performed for the cumulative with project traffic volume along Carson Street. Peak hour volumes were determined from the intersection analysis provided by Kaku Associates. Because the p.m. peak hour predicts higher traffic volumes, with the greater percentage of this traffic proceeding eastbound (i.e., closer to the proposed facility), this peak hour was used to represent a reasonable worst-case scenario.

The model indicates that the resultant noise level at the proposed structure could be as high as 56.6 dBA Leq. The actual noise could be considerably less than this value which assumes a clear line-or-sight to the traffic in both directions. In reality, the existing hospital structures partially block this line-of-site and at least a portion of the traffic noise.

The predicted value is less than the County's 60 dBA daytime criterion for commercial land uses and is less than significant. The greatest level of noise generated during the night hours actually encompasses the 6:00 a.m. to 7:00 a.m. rush hour. The EMFAC2002 model distributed by the California Air Resources Board estimates that traffic volume during the evening peak hour (i.e., 5:00 p.m. to 6:00 p.m.) includes 2.12 times more vehicles than the 6:00 a.m. to 7:00 a.m. hour and p.m. peak hour noise levels are calculated to be 3.3 dBA higher than the 6:00 a.m. to 7:00 a.m. hour. As such, noise generated during the 6:00 a.m. to 7:00 a.m. hour is estimated at approximately 53.3 dBA Leq. This value is under the County's 55 dBA criterion and the impact is less than significant. All other night hours include lesser volumes of traffic with further reductions in noise and again, the impact is less than significant.

3.0 Cumulative Impacts

The CEQA Guidelines require that projects be evaluated with respect to their contribution to the cumulative baseline. The cumulative projects within the project area are located sufficiently far such that any on-site noise would not be additive. However, the traffic from the cumulative projects, as well as ambient growth, would be forced onto the same roadways and would be additive with project-generated off-site mobile noise sources.

Table 7 demonstrates that the cumulative "with project" contribution to traffic noise is no more than 0.3 dBA above the existing levels and is so small as to be inaudible. As such, any increase from the project alone, minus the other cumulative projects, would be even smaller and is also so small as to be less than significant. As such, no formal analysis is necessary.

4.0 Mitigation

No significant impacts have been identified and no mitigation (other than compliance with standard conditions) is required under CEQA. Still, while project-generated noise is less than significant, it does represent a nuisance and should be reduced to the extent reasonably feasible. Section 1.2 of this analysis presents guidelines to minimize the nuisance noise associated with construction and County Planning Staff should include these measures, as feasible, in the construction requirements as Applicant commitments.

5.0 Level of Significance After Mitigation

No significant impacts have been identified and no mitigation is warranted. Still the provided measures included in Section 1.2 should be required as project commitments to reduce the project's potential nuisance value. Inclusion of these measures would ensure that all impacts remain less than significant.

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APPENDIX B-1
SOUND32 MODELING OF OBSERVED FIELD DATA

A, NR-1, Soft Site
E/B 220th, 1
, 30 , 0 , 30 , 4 , 30
W/B 220th, 2
28 , 30 , 8 , 30 , 0 , 30
E/B lot, 3
, 10 , 8 , 10 , 0 , 10
N/B lot, 4
2 , 10 , 0 , 10 , 0 , 10
1
50.,-62,0,
750.,-62,0,
2
70.,-50,0,
50.,-50,0,
, 3
2..,200,0,
2..,-56,0,
, 4
46.,-56,0,
4..,200,0,
, 67 ,1
0,5.,
.5
ALL
C

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, NR-1, Soft Site

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	58.6

A, NR-1, Hard Site
E/B 220th, 1
44 , 30 , 0 , 30 , 4 , 30
W/B 220th, 2
8 , 30 , 8 , 30 , 0 , 30
S/B lot, 3
, 10 , 8 , 10 , 0 , 10
N/B lot, 4
, 10 , 0 , 10 , 0 , 10
, 1
750.,-62,0,
50.,-62,0,
, 2
750.,-50,0,
750.,-50,0,
, 3
26.,200,0,
6.,-56,0,
4
46.,-56,0,
46.,200,0,
, 67 ,1
5.,
C

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, NR-1, Hard Site

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	59.8

A, NR-2, Soft Site
/B Carson, 1
, 35 , 44 , 35 , 8 , 35
B Carson, 2
30 , 35 , 24 , 35 , 8 , 35
1
50.,56,0,
30.,56,0,
2
0.,92,0,
50.,92,0,
1 , 67 ,1
5.,
.5
,ALL

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, NR-2, Soft Site

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	65.9

LA, NR-2, Hard Site
E/B Carson, 1
5 , 35 , 44 , 35 , 8 , 35
/B Carson, 2
30 , 35 , 24 , 35 , 8 , 35
1
50.,56,0,
50.,56,0,
2
0.,92,0,
50.,92,0,
1 , 67 ,1
5.,
,ALL

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, NR-2, Hard Site

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	67.5

```
A, NR-3, Soft Site
/B Vermont, 1
 , 40 , 12 , 40 , 8 , 40
/B Vermont, 2
12 , 40 , 28 , 40 , 12 , 40
 1
6.,-750,0,
36.,750,0,
 2
0.,92,0,
50.,92,0,
1 , 67 ,1
5.,
.5
,ALL
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, NR-3, Soft Site

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	64.9

```
A, NR-3, Hard Site
/B Vermont, 1
 , 40 , 12 , 40 , 8 , 40
/B Vermont, 2
12 , 40 , 28 , 40 , 12 , 40
 1
6.,-750,0,
-36.,750,0,
, 2
0.,92,0,
50.,92,0,
 1 , 67 ,1
5.,

ALL
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, NR-3, Hard Site

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	66.6

APPENDIX B-2
SOUND32 MODELING OF EXISTING TRAFFIC VOLUMES

```
UCLA, CARSON, NORMANDIE-BERENDO, EXISTING
T-CARSON, 1
 3681 , 35 , 141 , 35 , 48 , 35
L-, 1
N,-750.,50,0,
N,750.,50,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, CARSON, NORMANDIE-BERENDO, EXISTING

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	71.3

```
UCLA, CARSON, BERENDO-VERMONT, EXISTING
T-CARSON, 1
 3919 , 35 , 150 , 35 , 52 , 35
L-, 1
N,-750.,50,0,
N,750.,50,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, CARSON, BERENDO-VERMONT, EXISTING

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	71.6

```
UCLA, CARSON, VERMONT-I110, EXISTING
T-CARSON, 1
 4289 , 35 , 164 , 35 , 56 , 35
L-, 1
N,-750.,50,0,
N,750.,50,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, CARSON, VERMONT-I110, EXISTING

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	72.0

```
UCLA, VERMONT, S/O CARSON, EXISTING
T-VERMONT, 1
 1902 , 40 , 73 , 40 , 25 , 40
L-, 1
N,-750.,50,0,
N,750.,50,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, VERMONT, S/O CARSON, EXISTING

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	69.8

APPENDIX B-3
SOUND32 MODELING OF CUMULATIVE, WITH PROJECT, TRAFFIC VOLUMES

```
UCLA, CARSON, NORMANDIE-BERENDO, CUMULATIVE
T-CARSON, 1
 3890 , 35 , 149 , 35 , 51 , 35
L-, 1
N,-750.,50,0,
N,750.,50,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, CARSON, NORMANDIE-BERENDO, CUMULATIVE

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	71.6

```
UCLA, CARSON, BERENDO-VERMONT, CUMULATIVE
T-CARSON, 1
 4156 , 35 , 159 , 35 , 55 , 35
L-, 1
N,-750.,50,0,
N,750.,50,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, CARSON, BERENDO-VERMONT, CUMULATIVE

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	71.9

```
UCLA, CARSON, VERMONT-I110, CUMULATIVE
T-CARSON, 1
 4565 , 35 , 175 , 35 , 60 , 35
L-, 1
N,-750.,50,0,
N,750.,50,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, CARSON, VERMONT-I110, CUMULATIVE

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	72.3

```
UCLA, VERMONT, S/O CARSON, CUMULATIVE
T-VERMONT, 1
 2007 , 40 , 77 , 40 , 26 , 40
L-, 1
N,-750.,50,0,
N,750.,50,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, VERMONT, S/O CARSON, CUMULATIVE

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	70.0

APPENDIX B-4
SOUND32 MODELING OF CUMULATIVE, WITH PROJECT, PEAK HOUR TRAFFIC VOLUMES

```
UCLA, CARSON, BERENDO-VERMONT, CUMULATIVE PEAK HOUR
T-CARSON EB, 1
 1826 , 35 , 70 , 35 , 24 , 35
T-CARSON WB, 2
 1495 , 35 , 57 , 35 , 20 , 35
L-, 1
N,-750.,374,0,
N,750.,374,0,
L-, 2
N,750.,410,0,
N,-750.,410,0,
R, 1 , 67 ,1
0,0,5.,
D, 4.5
ALL,ALL
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
UCLA, CARSON, BERENDO-VERMONT, CUMULATIVE PEAK HOUR

BASED ON FHWA-RD-108 AND
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

RECEIVER	LEQ
R-1	56.6

APPENDIX C
NOISE ASSESSMENT FOR TEMPORARY HELISTOP

Noise Assessment For:

HARBOR/UCLA MEDICAL CENTER TEMPORARY HELISTOP

COUNTY OF LOS ANGELES

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1.0 Existing Setting

1.1 Project Description

The Harbor/UCLA Medical Center is located in Unincorporated Los Angeles County bounded by Carson Street to the north, 220th Street to the south, South Vermont Avenue to the east and Normandy Avenue to the west. The center is planning a Medical Center Ambulatory Care/Surgery/Emergency Addition Project. During this project, the Medical Center's helistop will need to be relocated. Exhibit 1 shows a plan of the Medical Center with the addition. The existing helistop is located approximately 45 feet southeast of the location of the helistop after completion of construction of the addition. Helicopter noise levels will not change substantially after completion of the addition compared to existing conditions. In fact the helistop will be located slightly further from residential areas with the addition.

The temporary helistop is planned to be located near the southwest corner of the medical center, along 220th Street approximately 300 feet west of Normandy Avenue. The helistop will be elevated approximately 10 feet above the existing ground elevation. The area around the temporary helistop location is essentially flat. There are residences located directly south of the temporary helistop across 220th Street approximately 125 feet from the center of the temporary helistop. These homes are located in Unincorporated Los Angeles County. There are also residences located to the west of the helistop across Normandy Avenue. These homes are located in the City of Los Angeles

This report examines the potential noise impacts from the relocation of the helistop. Background information on noise and relevant noise criteria are presented along with measured existing noise levels. Helicopter noise levels are projected at the residential areas in the vicinity of the helistop and noise impacts assessed.

1.2 Background Information on Noise

1.2.1 Noise Criteria Background

Sound is technically described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the Decibel (dB). Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dB higher than another is judged to be twice as loud; and 20 dB higher four times as loud; and so forth. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud).

Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. Community noise levels are measured in terms of the "A-weighted decibel," abbreviated dBA. Exhibit 2 provides examples of various noises and their typical A-weighted noise level.

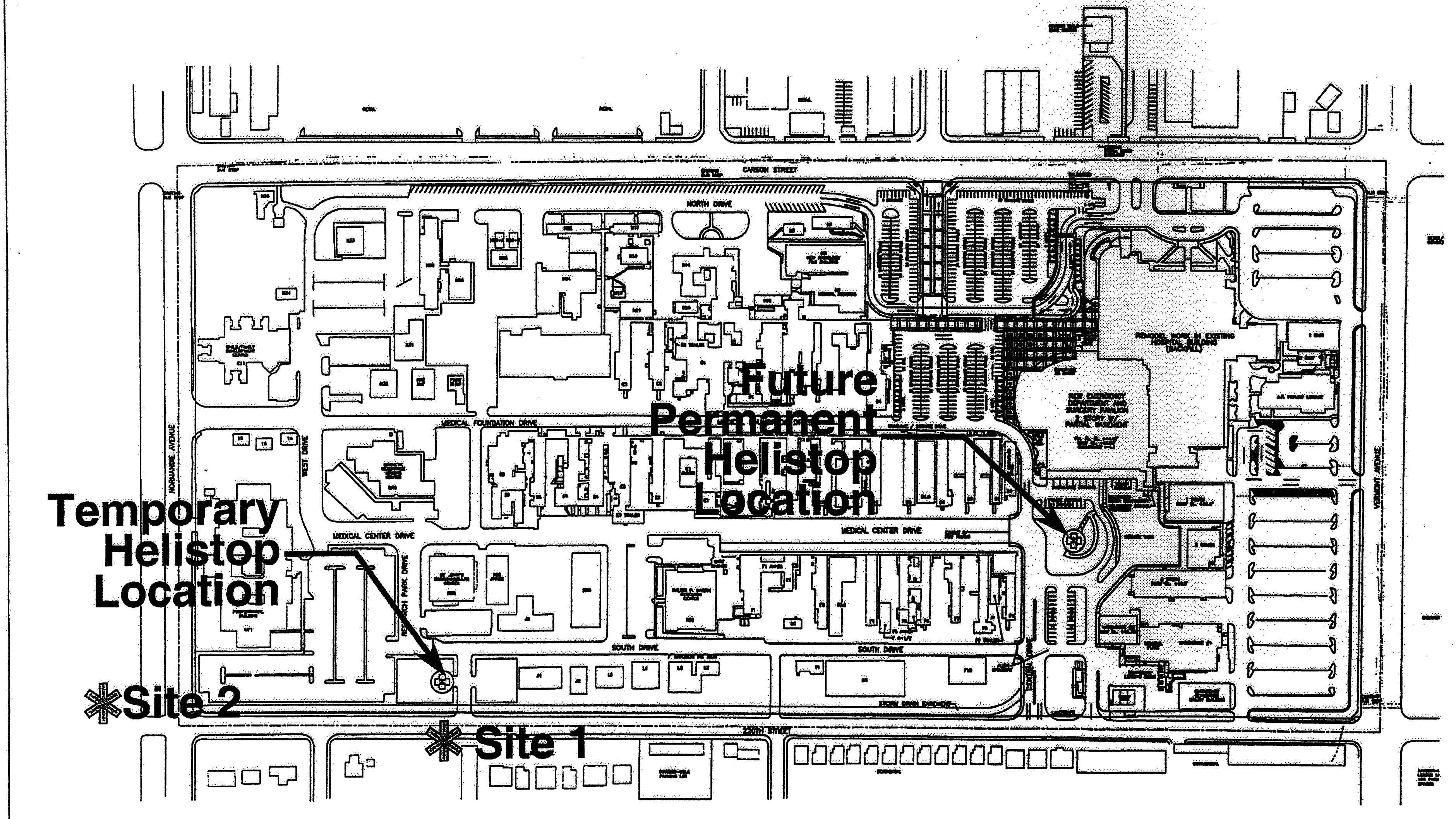


Exhibit 1

Site Plan/Noise Analysis Sites

Mestre Greve Associates

SOUND LEVELS AND LOUDNESS OF ILLUSTRATIVE NOISES IN INDOOR AND OUTDOOR ENVIRONMENTS

Numbers in Parentheses are the A-Scale Weighted Sound Levels for that Noise Event

dB(A)	OVER-ALL LEVEL Sound Pressure Level Reference: 0.0002 Microbars	COMMUNITY (Outdoor)	HOME OR INDUSTRY	LOUDNESS Human Judgement of Different Sound Levels
130		Military Jet Aircraft Take-Off With After-burner From Aircraft Carrier @ 50 Ft. (130)	Oxygen Torch (121)	120 dB(A) 32 Times as Loud
120 110	UNCOMFORTABLY LOUD	Turbo-Fan Aircraft @ Take Off Power @ 200 Ft. (110)	Riveting Machine (110) Rock-N-Roll Band (108-114)	110 dB(A) 16 Times as Loud
100		Jet Flyover @ 1000 Ft. (103) Boeing 707, DC-8 @ 6080 Ft. Before Landing (106) Bell J-2A Helicopter @ 100 Ft. (100)		100 dB(A) 8 Times as Loud
90	VERY LOUD	Power Mower (96) Boeing 737, DC-9 @ 6080 Ft. Before Landing (97) Motorcycle @25 Ft. (90)	Newspaper Press (97)	90 dB(A) 4 Times as Loud
80		Car Wash @ 20 Ft. (89) Prop. Airplane Flyover @ 1000 Ft. (88) Diesel Truck, 40 MPH @ 50 Ft. (84) Diesel Train, 45 MPH @ 100 Ft. (83)	Food Blender (88) Milling Machine (85) Garbage Disposal (80)	80 dB(A) 2 Times as Loud
70	MODERATELY LOUD	High Urban Ambient Sound (80) Passenger Car, 65 MPH @ 25 Ft. (77) Freeway @ 50 Ft. From Pavement Edge, 10:00 AM (76 +or- 6)	Living Room Music (76) TV-Audio, Vacuum Cleaner	70 dB(A)
60		Air Conditioning Unit @ 100 Ft. (60)	Cash Register @ 10 Ft. (65-70) Electric Typewriter @ 10 Ft. (64) Dishwasher (Rinse) @ 10 Ft. (60) Conversation (60)	60 dB(A) 1/2 as Loud
50	QUIET	Large Transformers @ 100 Ft. (50)		50 dB(A) 1/4 as Loud
40		Bird Calls (44) Lower Limit Urban Ambient Sound (40)		40 dB(A) 1/8 as Loud
20	JUST AUDIBLE	Desert at Night (dB[A] Scale Interrupted)		
10	THRESHOLD OF HEARING			

SOURCE: Reproduced from Melville C. Branch and R. Dale Beland, "Outdoor Noise in the Metropolitan Environment," Published by the City of Los Angeles, 1970, p.2.

EXHIBIT 2
TYPICAL A-WEIGHTED NOISE LEVELS

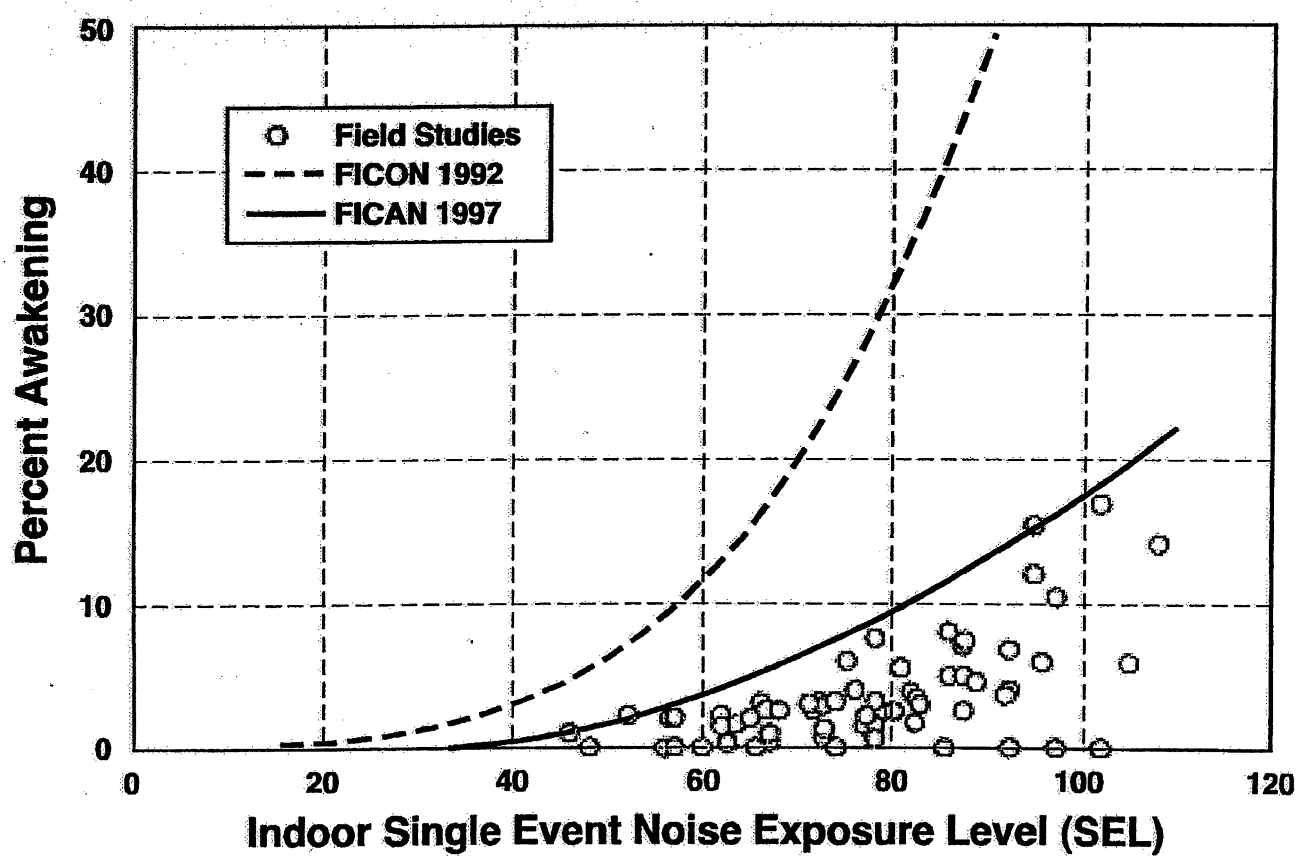


Exhibit 3
Sleep Interference & Noise Level

PHYSIOLOGICAL RESPONSES are those measurable effects of noise on people that are realized as changes in pulse rate, blood pressure, etc. While such effects can be induced and observed, the extent is not known to which these physiological responses cause harm or are sign of harm.

ANNOYANCE is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another of equal hearing capability.

1.2.2 Noise Assessment Metrics

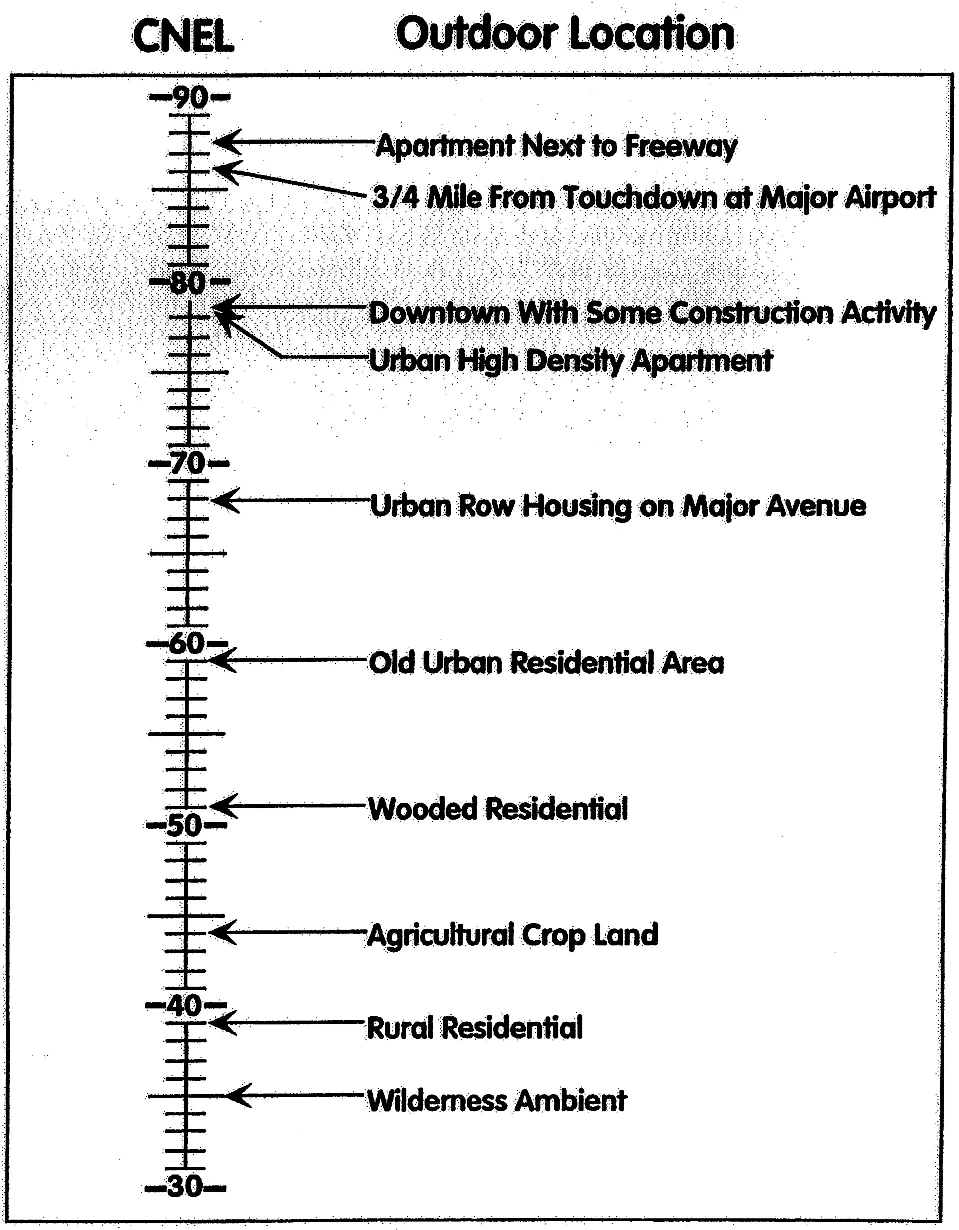
The description, analysis and reporting of community noise levels around communities is made difficult by the complexity of human response to noise and the myriad of noise metrics that have been developed for describing noise impacts. Each of these metrics attempts to quantify noise levels with respect to community response. Most of the metrics use the A-Weighted noise level to quantify noise impacts on humans. A-Weighting is a frequency weighting that accounts for human sensitivity to different frequencies.

Noise metrics can be divided into two categories: single event and cumulative. Single-event metrics describe the noise levels from an individual event such as an aircraft fly over or perhaps a heavy equipment pass-by. Cumulative metrics average the total noise over a specific time period, which is typically 1 or 24-hours for community noise problems. For this type of analysis, cumulative noise metrics will be used.

Several rating scales have been developed for measurement of community noise. These account for: (1) the parameters of noise that have been shown to contribute to the effects of noise on man, (2) the variety of noises found in the environment, (3) the variations in noise levels that occur as a person moves through the environment, and (4) the variations associated with the time of day. They are designed to account for the known health effects of noise on people described previously. Based on these effects, the observation has been made that the potential for a noise to impact people is dependent on the total acoustical energy content of the noise. A number of noise scales have been developed to account for this observation. Two of the predominate noise scales are the: Equivalent Noise Level (LEQ) and the Community Noise Equivalent Level (CNEL). These scales are described in the following paragraphs.

LEQ is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. LEQ is the "energy" average noise level during the time period of the sample. LEQ can be measured for any time period, but is typically measured for 1 hour. This 1 hour noise level can also be referred to as the Hourly Noise Level (HNL). It is the energy average of all the events and background noise levels that occur during that hour.

CNEL, Community Noise Equivalent Level, is the predominant rating scale now in use in California for land use compatibility assessment. The CNEL scale represents a time weighted 24-hour average noise level based on the A-weighted decibel. Time weighted refers to the fact that noise that occurs during certain sensitive time periods is penalized for occurring at these times. The evening time period (7 p.m. to 10 p.m.) penalizes noises



Source: U.S. Environmental Protection Agency, "Impact Characterization of Noise Including Implications of Identifying and Achieving Levels of Cumulative Noise Exposure," EPA Report NTID 73.4, 1973.

EXHIBIT 4

TYPICAL OUTDOOR NOISE LEVELS

County of Los Angeles Noise Ordinance

Chapter 12.08 of the County of Los Angeles Municipal Code contains the County's Noise Ordinance. The noise ordinance establishes limits for noise impacting residential areas. The most relevant limits are presented in Table 1. The exterior limits are for noise from a commercial use impacting a residential use. The interior limits are applicable to noise from one multi-family residential unit impacting a neighbor. There are no other interior noise level limits.

The limits are specified in terms of dBA noise levels that cannot be exceeded at residential areas for a specified period of time. The time limits are listed in the first column of Table 1. Column 2 lists the equivalent noise metric in terms of "percent noise level" or L%. The percent noise level describes the noise level that is exceeded during a certain percentage of the measurement period. For example, the L50 noise level is the level exceeded 50% of the measurement period or thirty minutes in an hour. Columns 3 and 4 list the daytime and nighttime noise levels for the specified metric that cannot be exceeded under the noise ordinance. Greater noise levels are permitted during the day (7 a.m. to 11 p.m.) as compared to nighttime (11 p.m. to 7 a.m.).

Table 1
Noise Ordinance Limits

Maximum Time of Exposure	Noise Metric	Noise Level Not To Be Exceeded 7 a.m. to 10 p.m. (daytime)	10 p.m. to 7 a.m. (nighttime)
EXTERIOR NOISE STANDARDS			
30 Minutes/Hour	L50	55 dBA	50 dBA
15 Minutes/Hour	L25	60 dBA	55 dBA
5 Minutes/Hour	L8.3	65 dBA	60 dBA
1 Minute/Hour	L1.7	70 dBA	65 dBA
Any period of time	Lmax	75 dBA	70 dBA
INTERIOR NOISE STANDARDS			
5 Minutes/Hour	L8.3	45 dBA	40 dBA
1 Minute/Hour	L1.7	50 dBA	45 dBA
Any period of time	Lmax	55 dBA	50 dBA

The Noise Ordinance requires that the daytime noise level for a commercial noise source measured at an outdoor area of a residential property cannot exceed 75 dBA ever, 70 dBA for more than 1 minute of any hour, 65 dBA for more than 5 minutes of any hour, 60 dBA for more than 15 minutes of any hour, or 55 dBA for more than 30 minutes of any hour. Nighttime noise level limits are reduced by 5 dB to reflect the increased sensitivity to noise occurring during this time period.

The noise ordinance also requires that the noise level for a source measured at an indoor area of a residential property cannot exceed 55 dBA ever, 50 dBA for more than 1 minute of any hour, and 45 dBA for more than 5 minutes of any hour. The nighttime interior noise level limits are reduced by 5 dB. In the event that the ambient noise level exceeds any of the noise limit categories, the cumulative period applicable to that category shall be increased to reflect the ambient noise level.

The noise ordinance provides separate noise standards for construction activities. Mobile equipment operated for periods of less than 10 days cannot exceed 75 dBA at single-family residential areas Monday through Saturday between 7:00 a.m. and 8:00 p.m. or 60 dBA between 8:00 p.m. and 7:00 a.m. or all day Sunday. Stationary equipment operated 10 days or more cannot exceed 60 dBA at single-family residential areas Monday through Saturday between 7:00 a.m. and 8:00 p.m. or 50 dBA between 8:00 p.m. and 7:00 a.m. or all day Sunday.

As discussed above, these noise limits are not applicable to aviation noise sources. Federal law prohibits local municipalities from enacting laws limiting aviation activities. Therefore, the Noise Ordinance limits cannot be applied directly to the heliport operations. However, these noise level limits do give some guidance to the appropriateness of noise levels impacting residential areas.

City of Los Angeles Noise Element

City of Los Angeles Noise Element presents "Guidelines for Noise Compatible Land Use". This exhibit classifies various land uses in terms of Normally Acceptable, Conditionally Acceptable, Normally Unacceptable and Unacceptable based on there noise exposure in the Community Noise Equivalent Level (CNEL) scale. For residences CNEL levels from 50 to 60 dB are Normally Acceptable, CNEL levels from 55 to 70 are Conditionally Acceptable, CNEL levels of 70 to 75 dB are Normally Unacceptable and CNEL levels exceeding 70 dB are Clearly Unacceptable.

A land use exposed to noise levels that are considered Normally Acceptable indicates that the land use is compatible with the noise environment and no special noise insulation is required. If new construction is exposed to a Conditionally Acceptable noise level a noise analysis is typically required to determine noise mitigation required to reduce noise levels to a compatible level. Conventional construction will normally suffice with a fresh air supply system or air conditioning to allow windows to remain closed. A noise analysis is also required for new construction exposed to a Normally Unacceptable noise level. The analysis is required to determine mitigation measures, which may be significant, to reduce noise levels to a compatible level. In general development is discouraged for land uses in areas this designation. Proposed development exposed to Clearly Unacceptable noise levels should generally not be undertaken.

Noise Element policies establish a 65 CNEL standard for outdoor residential areas and a 45 CNEL standard for indoor residential areas.

City of Los Angeles Noise Ordinance

The Los Angeles Municipal Code (Chapter XI-Noise Regulation) establishes the noise standards for various noise sources generated on private property affecting neighboring properties. Parking lot and playground noise sources are not specifically regulated by the code. The section of the code (Article 6-General Noise) is what is referred to as a "nuisance ordinance" in that it does not contain any specific noise limits that can not be exceeded. In general, the courts have found these types of ordinances unenforceable because the do not define specific noise levels that are considered nuisances. The remainder of ordinance does set specific noise limits for specific activities. However, none of these are related to the heliport operations.

Federal Aviation Administration

The Aviation Safety and Noise Abatement Act of 1979 (P.L. 96-193, 49 USC 2101) required the Federal Aviation Administration (FAA) to establish a single system for measuring and evaluating noise impacts. This system is based upon the A-weighted decibel. The FAA uses the same criteria for the assessment of noise generated by a helistop as it does for airports..

As a part of the Federal Aircraft Regulation (FAR) Part 150 Noise Control Program, the FAA published noise and land use compatibility charts to be used for land use planning with respect to aircraft noise. An expanded version of this chart appears in Aviation Circular 150/5020-1 (dated August 5, 1983. This chart is presented in Exhibit 4. These guidelines represent recommendations to local authorities for determining acceptability and permissibility of the land uses. These guidelines specify maximum noise exposure levels (in terms of the cumulative noise metric LDN that is similar to CNEL) that will be considered acceptable or compatible to people in living and working areas. These noise levels are derived from case histories involving aircraft noise problems at civilian and military airports and the resultant community response. Note that residential land uses is deemed acceptable for noise exposures up to 65 LDN/CNEL. Several important notes appear for the FAA guidelines including one which indicates that ultimately "the responsibility for determining the acceptability and permissible land uses remains with the local authorities."

FAA Advisory Circular 91-66 "Noise Abatement for Helicopters" provides guidelines to assist pilots, operators and others to minimize heliport noise.

1.3 Ambient Measurements

Ambient noise levels were measured in the vicinity of the project as part of this analysis. The measurements are intended to document the ambient noise levels in the project vicinity. Exhibit 1 shows the location of the measurement sites. Site 1 was located across 220th Street from the temporary heliport location in a residential area. Site 2 was located in a residential area to the west of the temporary heliport location across Normandy Boulevard. The noise measurements were made during the afternoon of January 22, 2002 and during the early morning hours of January 23, 2002 do document the ambient sound environment during a typical afternoon and late night period.

The measurement survey utilized the Brüel & Kjær 2236 automated digital noise data acquisition system for short-term (15-min) LEQ readings. This instrument automatically calculates both the Equivalent Noise Level (LEQ) and Percent Noise Level (L%) for any specific time period. The noise monitor was equipped with a Brüel & Kjær 1/2-inch electret microphone and was calibrated with a Brüel & Kjær calibrator with calibrations traceable to the National Bureau of Standards. Calibration for the calibrators is certified through the duration of the measurements. This measurement system satisfies the ANSI (American National Standards Institute) Standards 1.4 for Type 1 precision noise measurement instrumentation.

The results of the ambient short-term noise measurements are presented in Table 2. The table shows the time of the measurement the metrics measured were the Equivalent Noise Level (Leq), the maximum noise level (Lmax), the minimum noise level (Lmin) and the L% levels relating to the noise ordinance standards

Table 2
Existing Noise Measurements (dBA)

Site	Start Time	Leq	Lmax	L2	L8	L25	L50	L90	Lmin
1	3:17 PM	63.7	78.8	71.8	68.0	63.6	57.9	53.0	49.9
1	2:09 AM	52.7	71.3	61.1	51.2	49.9	49.3	48.4	47.6
2	4:07 PM	61.0	76.0	69.0	64.8	60.6	57.4	52.5	47.3
2	1:48 AM	51.1	70.3	61.8	50.1	45.4	43.7	41.6	40.6

The noise measurements results show noise levels in the area are what one would expect. Maximum noise levels were from vehicles on the streets adjacent to the measurement sites. Average nighttime noise levels were approximately 10 dB lower than daytime noise levels. The daytime noise environment was dominated by traffic on nearby roadways. During the late night measurements distant traffic dominated the noise environment with mechanical equipment at the medical center contributing to the noise environment at Site 1. There were no helicopter operations at the medical center during the measurements.

Based on the measurements, existing CNEL noise levels from non-helicopter noise sources would be expected to be approximately 64 dB at Site 1 and 61 dB at Site 2.

1.4 Existing Helistop Noise Levels

The existing helistop is located approximately 1,240 feet to the east of the temporary helistop. Helicopters typically approach and depart the existing helistop to the east and to the south. Existing helicopter operations keep the helicopters 1,240 feet away from the residences directly adjacent to the proposed temporary helistop location (Site 1) and 1,620 feet away from the residences near Site 2.

Helicopter operations would be expected to generate maximum noise levels in the 77 to 82 dBA range near Site 1 and in the 75 to 80 dBA range near Site 2. These noise levels are comparable to those generated by vehicles near the sites. CNEL levels from helicopter operations would be expected to be less than 37 dB. A daily CNEL level with one nighttime (10 p.m. to 7 a.m.) operation would be less than 56 dB. The CNEL levels from existing helicopter operations are below traffic noise levels at the sites.

2.0 Potential Noise Impacts

2.1 Noise Impact Criteria

The only applicable noise criterion is the City and County planning exterior noise standard of 65 CNEL. The FAA also recommends this standard. Note that, strictly defined, CNEL is an annual average noise level. In this case, the CNEL for one day in which a nighttime operation occurs will be 20 dB higher than the annual average CNEL. Both levels will be examined.

Single event noise levels are also an important gauge of the potential noise impacts from the temporary helistop. However, no thresholds have been established to determine what levels result in a significant impact. The noise level of the event, the frequency of occurrence and the time of occurrence all contribute to annoyance and sleep disturbance. This is why the CNEL metric is typically used to assess impacts because it takes all of these factors into account. However, in this case where there will be relatively infrequent events of substantial noise levels the potential impacts of these events must also be examined. However, determining the significance of these events is much more difficult and must also take into account the frequency and time of occurrence as well as the noise levels during the events. Noise events that cause sleep disturbance on a regular basis should be considered as a significant impact.

2.2 Noise Impacts

Helicopters visiting the helistop include air ambulance services, the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department. Many different helicopter types could visit the helistop. The two loudest helicopters potentially visiting the site are the Sheriff Department's Sikorsky H-3 "Sea King" and the Fire Department's Sikorsky UH-60 (similar to a "Blackhawk"). The noise impacts will be analyzed using these two helicopters and the assumption that they are each responsible for half of the operations at the helipad. Air ambulance services typically use smaller helicopters that do not generate as much noise, therefore this is a worst-case assumption.

2.2.1 Methodology

The methodology used to determine helicopter noise levels is consistent with that presented in the document "Helicopter Noise Exposure Curves for Use In Environmental Impact Assessment" (published by the Federal Aviation Information, by J. Steven Newman, Edward J Rickley and Tyrone L. Bland, November 1982 Report No. FAA-EE-82-16). This document is a precursor to the noise calculation methodology used in the FAA's Heliport Noise Model (HNM). Source noise levels for the two helicopter types were taken from this document and from the HNM source noise level database. The higher noise level from either source was used. Note that neither the H-3 nor the UH-60 are specifically in the document or the HNM database. The FAA has established a list of equivalent helicopters in terms of noise generation. The H-3 is equivalent to a Sikorsky S-61 and the UH-60 is equivalent to the Sikorsky S-70. Noise data for the S-61 was used to determine noise levels for the H-3 and noise levels from the S-70 were used to determine noise levels from the UH-60.

The Helicopter Noise Exposure Curves document and the HNM database contains SEL noise levels at specific distances for approach, level flyover and departure to the left and right of the flight path as well as directly underneath the flight path. The worst-case (highest) directional (left, right or center) noise level at 200 feet was used to calculate the SEL noise level for approach to and departure from the heliport for each helicopter type. These levels were adjusted for distance to determine the noise level at the specific receptors. This distance adjustment includes both an adjustment for how sound drops off over distance as well as the duration of a noise event relative to the standard distance. The distance used was the shortest difference from the flight path to the receptor.

The Sheriff's department was consulted regarding expected flight paths to and from the heliport. The Sheriff's department pilot indicated that in clear weather they would approach the heliport from and altitude of approximately 1,500 feet above ground level and begin their descent approximately 1/4 mile from the heliport. The decent would be approximately linear (i.e. a straight line from a point 1/4 mile from the heliport and 1,500 feet high to the heliport). The pilot noted that during cloudy conditions they could start their descent at an altitude of 500 feet above ground. The pilot indicated that during a departure they would climb from the pad at a rate between 700 and 1,200 feet per minute at a speed of 60 to 80 knots. Information from the medical center indicates that the helicopters will approach and depart the helistop from the east and the west. This information was used to determine the shortest distance from the flight paths to the receptor locations.

As the helicopters approach the ground on arrival and as they take-off they are essentially hovering. The Helicopter Noise Exposure Curves Document and the HNM database contain maximum noise levels for helicopters hovering near the ground at a distance of 200 feet from the helicopter. The highest noise level for either of these sources was used to determine the maximum noise levels during this portion of the operation. The maximum noise level was adjusted based on the distance from the heliport to the receptor. This maximum noise level is essentially constant. To determine the contribution to the total SEL of an event from this portion of the operation, it was assumed that this hover mode lasted 3 seconds. This time is used in the standard flight profiles in the HNM model.

After the helicopter touches down or before it takes off there is a period of time where the engines and blades will operate in essentially an idle mode just before the engines are shut down or after they are started. The Helicopter Noise Exposure Curves document indicates that this idling mode produces noise levels approximately 12 dB lower than during hover. The standard flight profiles in HNM assume that the helicopter operates in this mode for 30 seconds after touch-down and before take-off. This duration was used to determine the contribution to the total SEL from a landing or take-off.

To determine the total SEL from an approach event the approach SEL, hover SEL and idle SEL were added together. Similarly to determine the total SEL from a departure event the idle SEL, hover SEL and departure were added together. The maximum noise level was determined from the higher of the hover maximum noise level or 10 dB lower than the approach or departure SEL. Maximum noise levels from aircraft approaches or departures are typically 10 dB lower than the SEL levels. CNEL levels were determined from the Calculated SEL levels and the time of operations discussed below.

2.2.2 Operations

Operations at the heliport are not scheduled and occur when required by an emergency medical situation. Logs of helicopter operations for the last three months of 2001 and the first month of 2002 were provided by the medical center. The data primarily consisted of the time which the Safety Police Dispatcher received a call that a helicopter was in route. Typically the helicopters land 15 minutes after this time and depart less than 1 hour after arriving. For a few of the events the actual landing and departure times were recorded. This data was used when available. Otherwise the arrival and departure times were calculated using the typical times from the initial call.

The operations are summarized in Tables 3 and 4 below. Table 3 presents the number of arrivals by time of day used to calculate CNEL for each of the four months of data. Table 4 presents the number of departures. The average and maximum number of monthly operations is also presented. It is not expected that operations will change significantly in the future.

Table 3
Recent Arrival History at Helistop

Month	Day (7am to 7 pm)	Evening (7pm to 10 pm)	Nighttime (10 pm to 7 am)	Monthly
October, 2001	5	1	5	11
November, 2001	8	0	0	8
December, 2002	6	0	2	8
January, 2002	6	3	2	11
Average	6.25	1.00	2.25	9.5
Maximum	8	3	5	11

Table 4
Recent Departure History at Helistop

Month	Day (7am to 7 pm)	Evening (7pm to 10 pm)	Nighttime (10 pm to 7 am)	Monthly
October, 2001	5	0	6	11
November, 2001	7	1	0	8
December, 2002	5	2	1	8
January, 2002	7	2	2	11
Average	6.00	1.25	2.25	9.5
Maximum	7	2	6	11

Tables 3 and 4 show that most operations occur during the daytime hours. This data was used to calculate the annual average CNEL noise levels presented below. On average there are only 2.25 arrivals and departures each month during the nighttime hours. The data shows that on average there are only 1.5 arrivals and departures each month between the hours of 11 pm and 6 am.

2.2.3 Helicopter Noise Levels

Noise levels were calculated using the methodology presented above at two locations, the homes nearest the proposed temporary helistop location, Site 1, and the nearest homes directly under the approach and departure paths, Site 2. These are the same locations where ambient noise measurements were performed and are shown in Exhibit 2.

Site 2 is located approximately 380 feet west of the helistop. Noise levels at homes 380 feet to the east of the helistop would experience noise levels approximately the same as at Site 2. Homes along 220th Street between Site 2 and the helistop will experience noise levels between those at Site 1 and Site 2. Similarly homes to the east of the helistop up to a distance of 380 feet from the helistop will experience noise levels between those at Site 1 and Site 2. Homes located 380 feet south of the helistop will experience noise levels somewhat lower than Site 2 due to increased distance from the flight tracks and intervening buildings that will reduce noise levels as the helicopters approach the ground. Noise levels presented in Table 5 represent outdoor noise levels. Indoor noise levels will be approximately 12 dB lower in a home with open windows and 20 dB lower in a home with closed windows.

Table 5
Arrival and Departure Noise Levels at Representative Sites (dBA)

	Arrival		Departure	
Location	SEL	Lmax	SEL	Lmax
Site 1				
UH-60 (S61)	110	103	110	103
H-3 (S70)	107	99	106	99
Site 2				
UH-60 (S61)	103	91	102	91
H-3 (S70)	102	91	97	85

Table 5 shows that Site 1 will experience maximum noise levels of up to 103 dBA during arrivals and departures and SEL levels of up to 110 dBA. Remember that the SEL represents the total noise energy during the event and the maximum noise level represents the highest noise level at any one time during an event. Helicopter arrival and departure events would not be expected to be audible for more than two minutes. Site 2 is projected to experience maximum levels of up to 91 dBA during arrivals and departures and SEL levels up to 103 dBA.

Maximum indoor SEL levels at Site 1 are projected to be 91 dBA with open windows and 83 dBA with closed windows. Based on the 1997 FICAN sleep disturbance curves presented in Exhibit 3 approximately 10% of persons near Site 1 would be expected to be awakened with closed windows during a helicopter event and approximately 12% of persons would be expected to be awakened with open windows.

Maximum indoor SEL levels at Site 2 are projected to be 79 dBA with open windows and 71 dBA with closed windows. Based on the 1997 FICAN sleep disturbance curves presented in Exhibit 3 approximately 6% of persons near Site 2 would be expected to be awakened with closed windows during a helicopter event and approximately 9% of persons would be expected to be awakened with open windows.

Based on the SEL levels and the historical operational data CNEL levels at the two sites were calculated and the results are presented in Table 6. As discussed above CNEL is defined as an annual average noise level. In situations such as this were there are relatively few operations (9.5 a month) on average and even fewer during the nighttime hours (2.25 per moth average) the CNEL for a single day can vary greatly. On a day with no operations the CNEL from helicopter operations will be 0. The second CNEL level presented in Table 6 is the CNEL level for a day with one nighttime operation. This is 20 dB greater than the actual annual average CNEL level. Note that the CNEL on a day with one operation during the daytime would be 10 dB lower than the second CNEL column in Table 6.

Table 6
CNEL from Helicopter Operations at Representative Sites (dBA)

Location	CNEL[1]	CNEL[2]
Site 1	57	77
Site 2	50	70

1 Annual Average
2. On Day With 1 Nighttime Operation

Table 6 shows that the CNEL level at the residential areas near the temporary helistop will not exceed 65 CNEL. The CNEL level as defined (i.e., an annual average) from helicopter noise is projected to be 57 dB at the nearest residences (Site 1). Even with open windows the indoor CNEL will be 45 dB.

The daily CNEL level at the nearest residences (Site 1) will exceed 65 CNEL on any day that there is an operation at the helistop no matter what time the operation occurs. If the operation occurs during nighttime hours (10 p.m. to 7 a.m.) the daily CNEL will be 77 dB if the operation occurs during the day (7 a.m. to 7 p.m.) the level will be 67 CNEL. On a day where there is an operation during the evening (7 p.m. to 10 p.m.) the daily CNEL will be 72 dB.

At Site 2, the daily 65 CNEL will be exceeded only on a day where there is a nighttime operation. When there is only a daytime operation the daily CNEL will be 60 dB. When there is only an evening operation the daily CNEL will be at the 65 dB standard.

Individual helicopter events will result in substantial noise levels at the residences in the vicinity of the temporary helistop. Some people will be awakened during nighttime events. On average there will be 9.5 events per month and only 2.5 of these will occur during the nighttime hours as defined by CNEL. Only 1.5 events per month historically occur between the hours of 11 p.m. and 6 a.m. Due to the low number of nighttime operations (i.e., an average of 2.5 per month), the level of sleep disturbance is not considered significant.

Noise annoyance is very subjective and often more dependant on the source of the noise rather than the level of noise. Noise generated by sources perceived as for the public good are often found less annoying than noise generated by undesirable sources. This helistop will only be used for medical emergencies which are understood by all to be for the public good. Also contributing to the temporary helistop not resulting in a significant impact is the fact that the helistop will be temporary. However, the two to three year period in which the temporary helistop will be used does represent a substantial time period.

In summary, the noise impacts from the temporary helistop are not considered significant for the following reasons:

- The annual CNEL levels will not exceed 65 dB.
- The nighttime operations (2.5 times per month on average) will not occur on a regular basis.
- The helistop will only be used for medical emergencies, which are generally understood to be for the public good and therefore are generally perceived to be less annoying.

3.0 Mitigation Measures

The temporary helistop relocation will not result in a significant noise impact. No mitigation is required.

ERRATA
FOR
NOISE ASSESSMENT
HARBOR/UCLA MEDICAL CENTER TEMPORARY HELISTOP

1. The second sentence in the first paragraph on page 1 is revised as follows:

   Delete: "The center is planning a Medical Center Ambulatory Care/Surgery/Emergency Addition Project."

   Add: "The center is planning a Medical Center/Surgery/Emergency Addition Project."

2. The fifth sentence in the first paragraph on page 1 is revised to read as follows:

   Delete: "The existing helistop is located approximately 45 feet southeast of the location of the helistop after completion of construction of the addition.

   Add: "The existing helistop is located approximately 45 feet southwest of the location of the helistop after completion of construction of the addition.

3. The following is added to Exhibit 1 which follows page 2.

   Add: *Noise measurements and modeling sites

RECENT HELISTOP ARRIVALS AT HARBOR-UCLA MEDICAL CENTER

The following is an update of the arrival and departure operations at Harbor-UCLA Medical Center. Logs of helicopter operations were provided by the medical center. The data typically consists of the time which the Safety Police received a call that a helicopter was in route and the actual landing and departure times. As shown below, the updated information is for the months of June 2004 through November 2004.

TABLE 1
ARRIVAL HISTORY AT HARBOR UCLA MEDICAL CENTER HELISTOP

Month	Day (7am to 7pm)	Evening (7pm to 10pm)	Night (10pm to 7am)	Monthly
June 2004	7	2	3	12
July 2004	5	0	0	5
August 2004	10	0	0	10
September 2004	7	0	4	11
October 2004	7	0	1	8
November 2004	10	1	2	13
Average	7.67	0.5	1.67	9.83
Maximum	10	2	4	13

Source: Ryan Wantz, Project Manager, Department of Public Works-PMD I, County of Los Angeles (April 2005).

TABLE 2
DEPARTURE HISTORY AT HARBOR UCLA MEDICAL CENTER HELISTOP

Month	Day (7am to 7pm)	Evening (7pm to 10pm)	Night (10pm to 7am)	Monthly
June 2004	7	2	3	12
July 2004	5	0	0	5
August 2004	10	0	0	10
September 2004	7	0	4	11
October 2004	6	1	1	8
November 2004	10	1	2	13
Average	7.0	0.67	1.67	9.83
Maximum	10	2	4	13

Source: Ryan Wantz, Project Manager, Department of Public Works-PMD I, County of Los Angeles (April 2005).

APPENDIX D
COUNTY OF LOS ANGELES CORRESPONDENCE

Sigma Engineering, Inc.

2101 Auto Center Drive, Suite 150, Oxnard, CA 93030 · (805) 983-6262 *ph* · (805) 983-4992 *fax*

May 4, 2005

Chief David Leininger
Los Angeles County Fire Department Headquarters
1320 North Eastern Avenue
Los Angeles, California 90063

Subject: Mitigated Negative Declaration, Harbor-UCLA Medical Center

Chief Leininger:

Thank you for your letter dated April 28, 2005 regarding our request for information on services provided by the Los Angeles County Fire Department for the Harbor-UCLA Medical Center, located at 1000 West Carson Street in Torrance, California.

I have responded to your comments in the order presented in your letter.

PLANNING DIVISION – FIRE PROTECTION & EMERGENCY MEDICAL SERVICE AVAILABILITY:

1. No response necessary.
2. This information has been incorporated into the Mitigated Negative Declaration (MND).
3. A map showing proposed modifications is attached for your information.
4. The traffic study conducted for this project takes into consideration planned development as far as year 2010 for CEQA analysis.

SERVICE RESPONSIBILITY:

5. Total square footage of proposed buildings is approximately 200,000 square feet.
6. This has been, and will continue to be incorporated in the MND.

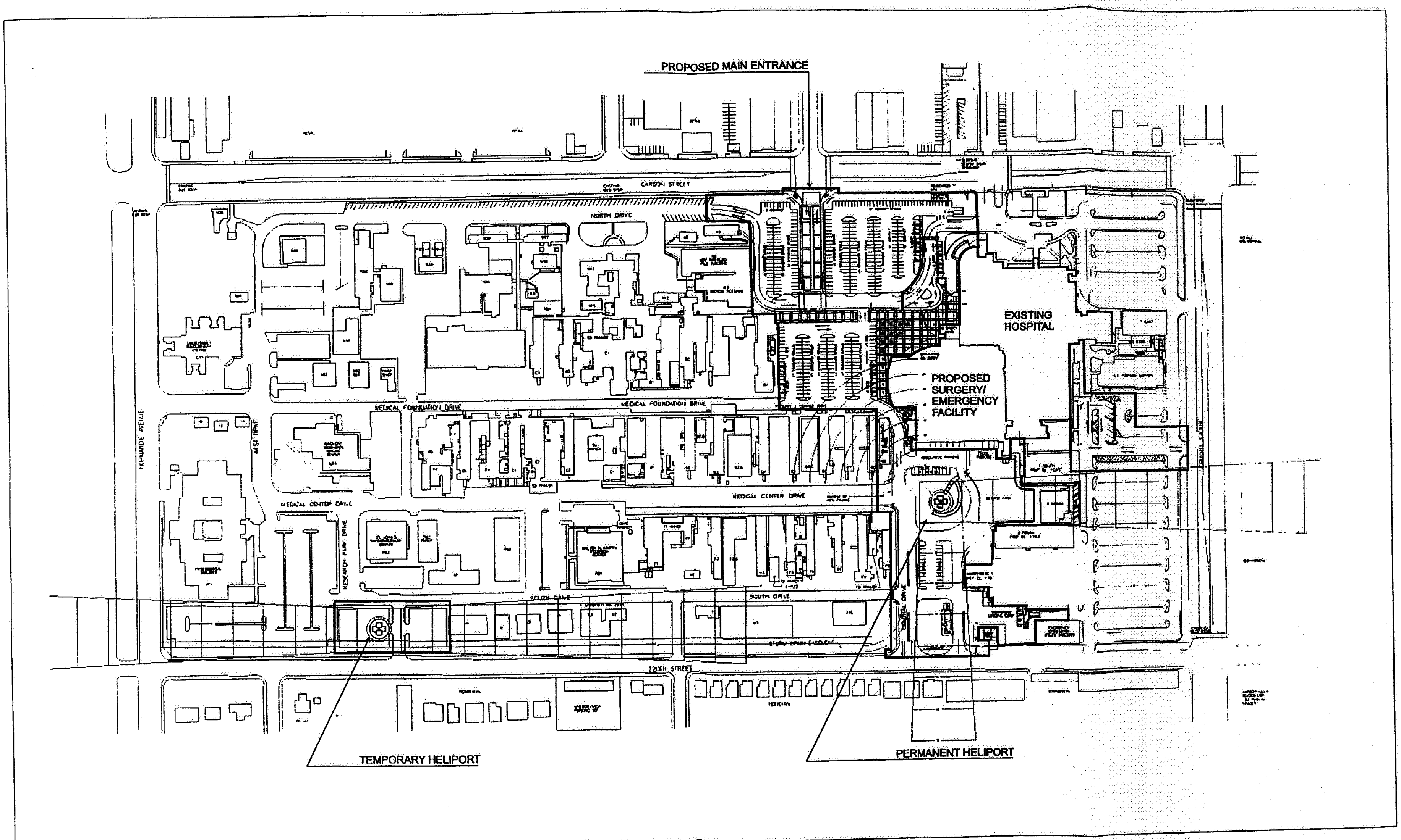
No response is necessary for your remaining comments. We will keep you informed of any future project changes.

Sincerely,

Elizabeth Zernik
Project Environmental Scientist

DL: Ryan Wantz, County of Los Angeles, Department of Public Works, 900 South Fremont Ave., 5th Floor, Alhambra, CA 91803-1331

Attachments: Exhibit 3, Site Plan
April 28, 2005 Letter from County of Los Angeles Fire Department to Christopher Wells, Sigma Engineering



SOURCE: Leo A. Daly, Planning and Architectural Engineering, Dec. 2001.

NORTH

300 150 0 300 SCALE IN FEET

Exhibit 3
Site Plan

HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

23380001 • 2/2002

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294
(323) 890-4330

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

April 28, 2005

Christopher Wells, Senior Environmental Scientist
Sigma Engineering, Inc.
2101 Auto Center Drive, Suite 150
Oxnard, CA 93030

Dear Mr. Wells:

MITIGATED NEGATIVE DECLARATION, HARBOR-UCLA MEDICAL CENTER (TORRANCE), FFER 200500020

The Mitigated Negative Declaration has been reviewed by the Planning Division, Land Development Unit, and Forestry Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION - FIRE PROTECTION & EMERGENCY MEDICAL SERVICE AVAILABILITY:

1. The information provided in our enclosed February 4, 2002 (EIR #1311/2002) letter is still valid.

2. Please note that it would not be correct to imply that the project would be served by the closest fire station alone. Any County Fire Department emergency unit may respond anywhere in our service territory depending on need and availability. A major incident would draw multiple units from several stations. For example, the normal dispatch to a first-alarm commercial or institutional structure fire is five (5) engines, two (2) trucks, one (1) paramedic squad, and two (2) battalion chiefs. Additional nearby fire stations that may respond to the project site include:

   - Station 116, located at Victoria Street and Rainsbury Avenue in Carson. It has a 3-person engine, a 4-person truck, and a 2-person paramedic squad.

   - Station 158, located at 162nd Street and Denker Avenue in Gardena. It has a 3-person engine and a 2-person paramedic squad.

   - Station 6, located at Narbonne Avenue and 255th Street in Lomita. It has a 3-person engine and a 2-person paramedic squad.

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

AGOURA HILLS	BRADBURY	CUDAHY	HAWTHORNE	LA MIRADA	MALIBU	POMONA	SIGNAL HILL
ARTESIA	CALABASAS	DIAMOND BAR	HIDDEN HILLS	LA PUENTE	MAYWOOD	RANCHO PALOS VERDES	SOUTH EL MONTE
AZUSA	CARSON	DUARTE	HUNTINGTON PARK	LAKEWOOD	NORWALK	ROLLING HILLS	SOUTH GATE
BALDWIN PARK	CERRITOS	EL MONTE	INDUSTRY	LANCASTER	PALMDALE	ROLLING HILLS ESTATES	TEMPLE CITY
BELL	CLAREMONT	GARDENA	INGLEWOOD	LAWNDALE	PALOS VERDES ESTATES	ROSEMEAD	WALNUT
BELL GARDENS	COMMERCE	GLENDORA	IRWINDALE	LOMITA	PARAMOUNT	SAN DIMAS	WEST HOLLYWOOD
BELLFLOWER	COVINA	HAWAIIAN GARDENS	LA CANADA-FLINTRIDGE	LYNWOOD	PICO RIVERA	SANTA CLARITA	WESTLAKE VILLAGE
							WHITTIER

3. We would need a detailed map to calculate response distances/times. Your letter indicated only that the new building would be located "along the west side of the existing structure," which was not identified on a map. The Harbor-UCLA Medical Center campus is more than half a mile across and contains many buildings.

4. While the current service level appears to be adequate for the existing development/land use, there are several major developments planned in the western part of Carson that would impact the same Fire Department resources. According to CEQA, the environmental analysis must take into account the cumulative impact of the proposed project in conjunction with other projects in the area.

SERVICE RESPONSIBILITY:

5. Our previous letter requested the square footage of proposed buildings. As this time information has still not been provided, the impact of this project remains difficult to evaluate.

6. Due to the fact that only limited information is available on this project at the present time, we are not able to respond completely as to how it will affect our Department. We would like to reserve the right to respond further at a future date when more information is available.

LAND DEVELOPMENT UNIT:

1. The Fire Prevention Division, Land Development Unit has no additional comments regarding this project. The conditions that were addressed in EIR #1311/2002, dated February 4, 2002, have not been changed at this time.

2. Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department, Land Development Unit's EIR Specialist at (323) 890-4243.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. Our previous response, dated February 4, 2002, remains unchanged.

2. If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

DAVID R. LEININGER, CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

DRL:cm

Enclosure

Enclosure

(323) 890-4330

February 4, 2002

Lauren Pflaum, Environmental Scientist
Sigma Engineering Inc.
870 Market Street Suite 823
San Francisco, CA 94102

Dear Ms. Pflaum:

REQUEST FOR INFORMATION FOR THE PROPOSED CONSTRUCTION AT HARBOR/UCLA MEDICAL CENTER (EXPANSION) LOCATED IN THE CITY OF TORRANCE – (EIR #1311/2002)

The "request for information" for the new Emergency Department/Survey Pavilion to the Harbor/UCLA Medical Center has been reviewed by the Planning, Land Development, and Forestry Divisions of the County of Los Angeles Fire Department. The following are their comments:

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICE AVAILABILITY:
The subject development will receive fire protection and paramedic service from the County of Los Angeles Fire Department. Fire Station 36, located at 127 W. 223RD Street, Carson, CA 90745-3702, is the jurisdictional station for this property. It is 1¼ miles (approximately 4¼ minutes) distant. This Station has two 4-person engine companies and a 2-person paramedic squad.

Fire protection serving the area appears to be adequate for the existing development/land use; however, each additional development creates greater demands on existing resources. Consequently, the impact that this project will have on the adequacy of the Fire Department's level of service remains uncertain.

The environmental document should specify the square footage of proposed buildings.

GENERAL REQUIREMENTS:
The projected use of the proposed development may necessitate multiple ingress/egress access for the circulation of traffic, and emergency response issues. The Department may condition future development to provide additional means of access.

The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows and hydrants. Specific fire and life safety requirements for the construction phase will be addressed at the building fire plan check. There may be additional fire and life safety requirements during this time.

Every building constructed shall be accessible to Fire Department apparatus by way of access roadways, with an all weather surface of not less than the prescribed width, unobstructed, clear-to-sky. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.

When a bridge is required, to be used as part of a fire access road, it shall be constructed and maintained in accordance with nationally recognized standards and designed for a live load sufficient to carry a minimum of 75,000 pounds.

When involved with a subdivision, Fire Department requirements for access, fire flows and hydrants are addressed at the Los Angeles County Subdivision Committee meeting, during the subdivision tentative map stage.

NON-RESIDENTIAL:
Development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

1. No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.

2. No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.

3. Additional hydrants will be required if hydrant spacing exceeds specified distances.

Turning radii shall not be less than 42 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length and at the end of all cul-de-sacs. All on-site driveways shall provide a minimum unobstructed width of 26 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. Driveway width for non-residential developments shall be increased when any of the following conditions will exist:

1. Provide 28 feet in width, when a building has three or more stories, or is more than 35 feet in height, above access level. Also, for using fire truck ladders, the centerline of the access roadway shall be located parallel to, and within 30 feet of the exterior wall on one side of the proposed structure.

2. Provide 34 feet in width, when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.

3. Provide 42 feet in width, when parallel parking is allowed on each side of the access roadway/driveway.

4. "Fire Lanes" are any ingress/egress, roadway/driveway with paving less than 34 feet in width, and will be clear-to-sky. All "Fire Lanes" will be depicted on the final map.

5. For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING – FIRE LANE" in three inch high letters. Driveway labeling is necessary to ensure access for Fire Department use.

LIMITED ACCESS DEVICES (GATES, ETC.):

1. Any single gate used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky.

2. Any gate used for a single direction of travel, used in conjunction with another gate, used for travel in the opposite direction, (split gates) shall have a minimum width of 20 feet each, clear-to-sky.

3. Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.

4. All limited access devices shall be of a type approved by the Fire Department.

5. Gate plans shall be submitted to the Fire Department, prior to installation. These plans shall show all locations, widths and details of the proposed gates.

TRAFFIC CALMING MEASURES:

All proposals for traffic calming measures (speed humps/bumps, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review, prior to implementation.

Should any questions arise regarding design and construction, and/or water and access, please contact Inspector Mike McHargue at (323) 890-4243 (E-mail: mmchargu@lacofd.org).

OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

David R. Leininger

DAVID R. LEININGER, ACTING CHIEF, FORESTRY DIVISION
PREVENTION BUREAU

DRL:sc

Sigma Engineering, Inc.

South & Headquarters: 201 Bernoulli Circle, Suite E, Oxnard, CA 93030 · (805) 983-6262 *ph* · (805) 983-4992 *fax*
North: 870 Market Street, Suite 823, San Francisco, CA 94102 · (415) 362-2555 *ph* · (415) 362-2322 *fax*

February 16, 2005

Sergeant Tony Brookins
Los Angeles County Office of Public Safety
13001 Dahlia Street
Downey, California 93242

Sergeant Brookins:

On behalf of the County of Los Angeles, I am requesting information on services provided by the Los Angeles County Office of Public Safety (LACOPS) for the Harbor-UCLA Medical Center, located at 1000 West Carson Street in Torrance, California.

Sigma Engineering, Inc. (SEI) is an engineering and consulting firm hired by the County of Los Angeles to prepare a Mitigated Negative Declaration, which will determine if any potentially adverse environmental impacts may result from construction and renovation activities planned for the Harbor-UCLA Medical Center. Specifically, the County plans to construct a new 2-story emergency department and surgery pavilion along the west side of the existing structure.

As a consultant working for the County of Los Angeles, I am preparing an environmental screening document, known as a Mitigated Negative Declaration, which will address the following areas:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

This document will be submitted to the County's Regional Planning Department for review and later to the County's Board of Supervisor's for approval.

In order to adequately address the *Public Services* portion of this document, I must contact the local police and fire departments as well as the utility companies, including the sewer, water, power, and telephone companies, which currently provide services to the medical campus.

Pertaining to police services, the document should discuss the services currently provided for the hospital, whether there is a 24-hour patrol of the area by sworn officers, private security, or a mix of the two, whether or not these services, including the number of uniformed officers and/or equipment, and funding must be increased to cover the addition to the hospital, and if additional services, not currently provided by LACOPS, will be necessary.

I am currently preparing other sections of this document and it must be submitted to the Regional Planning Department in the near future, and would greatly appreciate your assistance. Thank you in advance for any information you can give me, which will help me complete this report, and hopefully allow the hospital's much-needed expansion. Please contact me at (805) 983-6262.

Sincerely,

Christopher Wells
Senior Environmental Scientist
Sigma Engineering, Inc.

Sigma Engineering, Inc.

2101 Auto Center Drive, Suite 150, Oxnard, CA 93030 · (805) 983-6262 *ph* · (805) 983-4992 *fax*

February 16, 2005

Chief Michael Freeman
Los Angeles County Fire Department Headquarters
1320 North Eastern Avenue
Los Angeles, California 90063

Chief Freeman:

On behalf of the County of Los Angeles, I am requesting information on services provided by the Los Angeles County Fire Department for the Harbor-UCLA Medical Center, located at 1000 West Carson Street in Torrance, California.

Sigma Engineering, Inc. (SEI) is an engineering and consulting firm hired by the County of Los Angeles to re-prepare a Mitigated Negative Declaration (MND), which will determine if any potentially adverse environmental impacts may result from construction and renovation activities planned for the Harbor-UCLA Medical Center. Specifically, the County plans to construct a new 2-story emergency department and surgery pavilion along the west side of the existing structure. This document will be submitted to the County's Regional Planning Department for review and later to the County's Board of Supervisor's for approval.

In order to adequately address the *Public Services* portion of this document, I must contact the local police and fire departments as well as public utilities, including the sewer, water, power, and telephone companies, which currently provide services to the medical campus.

Pertaining to fire protection and emergency services, the document should discuss the services currently provided for the hospital, average response times, the location of the nearest fire station, whether or not these services, including the number of fire men and women and/or equipment and funding must be increased to cover the addition to the hospital, and if additional services, not currently provided by the local fire station, will be necessary.

SEI has previously made a request for information from your office. Since the MND is being updated we have make this request again. I've attached your response (dated February 4, 2002) to our original request in the event that all or most of the information you provided is still accurate.

I am currently preparing other sections of this document and it is scheduled to be submitted to the Regional Planning Department in the near future, and would greatly appreciate your assistance. Thank you in advance for any information you can give me, which will help me complete this report, and hopefully allow the hospital's much-needed expansion to begin soon. Please contact me at (805) 983-6262.

Sincerely,

Christopher Wells
Senior Environmental Scientist
Sigma Engineering, Inc.

Attachment: February 4, 2002 Letter from County of Los Angeles Fire Department to Lauren Pflaum, Sigma Engineering

Attachment

February 4, 2002 Letter from County of Los Angeles Fire Department to Sigma Engineering

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

(323) 890-4330

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

February 4, 2002

Lauren Pflaum, Environmental Scientist
Sigma Engineering Inc.
870 Market Street Suite 823
San Francisco, CA 94102

Dear Ms. Pflaum:

REQUEST FOR INFORMATION FOR THE PROPOSED CONSTRUCTION AT HARBOR/UCLA MEDICAL CENTER (EXPANSION) LOCATED IN THE CITY OF TORRANCE – (EIR #1311/2002)

The "request for information" for the new Emergency Department/Survey Pavilion to the Harbor/UCLA Medical Center has been reviewed by the Planning, Land Development, and Forestry Divisions of the County of Los Angeles Fire Department. The following are their comments:

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICE AVAILABILITY:
The subject development will receive fire protection and paramedic service from the County of Los Angeles Fire Department. Fire Station 36, located at 127 W. 223RD Street, Carson, CA 90745-3702, is the jurisdictional station for this property. It is 1¼ miles (approximately 4¼ minutes) distant. This Station has two 4-person engine companies and a 2-person paramedic squad.

Fire protection serving the area appears to be adequate for the existing development/land use; however, each additional development creates greater demands on existing resources. Consequently, the impact that this project will have on the adequacy of the Fire Department's level of service remains uncertain.

The environmental document should specify the square footage of proposed buildings.

GENERAL REQUIREMENTS:
The projected use of the proposed development may necessitate multiple ingress/egress access for the circulation of traffic, and emergency response issues. The Department may condition future development to provide additional means of access.

The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows and hydrants. Specific fire and life safety requirements for the construction phase will be addressed at the building fire plan check. There may be additional fire and life safety requirements during this time.

Every building constructed shall be accessible to Fire Department apparatus by way of access roadways, with an all weather surface of not less than the prescribed width, unobstructed, clear-to-sky. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.

When a bridge is required, to be used as part of a fire access road, it shall be constructed and maintained in accordance with nationally recognized standards and designed for a live load sufficient to carry a minimum of 75,000 pounds.

When involved with a subdivision, Fire Department requirements for access, fire flows and hydrants are addressed at the Los Angeles County Subdivision Committee meeting, during the subdivision tentative map stage.

NON-RESIDENTIAL:
Development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

1. No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.

2. No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.

3. Additional hydrants will be required if hydrant spacing exceeds specified distances.

Turning radii shall not be less than 42 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length and at the end of all cul-de-sacs. All on-site driveways shall provide a minimum unobstructed width of 26 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. Driveway width for non-residential developments shall be increased when any of the following conditions will exist:

1. Provide 28 feet in width, when a building has three or more stories, or is more than 35 feet in height, above access level. Also, for using fire truck ladders, the centerline of the access roadway shall be located parallel to, and within 30 feet of the exterior wall on one side of the proposed structure.

2. Provide 34 feet in width, when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.

3. Provide 42 feet in width, when parallel parking is allowed on each side of the access roadway/driveway.

4. "Fire Lanes" are any ingress/egress, roadway/driveway with paving less than 34 feet in width, and will be clear-to-sky. All "Fire Lanes" will be depicted on the final map.

5. For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING – FIRE LANE" in three inch high letters. Driveway labeling is necessary to ensure access for Fire Department use.

LIMITED ACCESS DEVICES (GATES, ETC.):

1. Any single gate used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky.

2. Any gate used for a single direction of travel, used in conjunction with another gate, used for travel in the opposite direction, (split gates) shall have a minimum width of 20 feet each, clear-to-sky.

3. Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.

4. All limited access devices shall be of a type approved by the Fire Department.

5. Gate plans shall be submitted to the Fire Department, prior to installation. These plans shall show all locations, widths and details of the proposed gates.

TRAFFIC CALMING MEASURES:

All proposals for traffic calming measures (speed humps/bumps, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review, prior to implementation.

Should any questions arise regarding design and construction, and/or water and access, please contact Inspector Mike McHargue at (323) 890-4243 (E-mail: mmchargu@lacofd.org).

OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

David R. Leininger

DAVID R. LEININGER, ACTING CHIEF, FORESTRY DIVISION
PREVENTION BUREAU

DRL:sc

chris

From: Mary Werk [mwerk@ladhs.org]
Sent: Thursday, March 31, 2005 3:32 PM
To: cwells@sigmaengineeringinc.com
Subject: Re: FW: Letter Discussing Potential Impact to Police Services

Christopher Wells
Senior Environmental Scientist
Sigma Engineering, Inc.
2101 Auto Center Drive, Suite 150
Oxnard, CA 93030

Dear Mr. Wells,

This letter is in response to your inquiry regarding the impact that the Surgery/Emergency Facility Replacement Project may have on police services at the Harbor UCLA Medical Center. Due to the existing police presence at the Medical Center, 24-hour service on campus, and planned upgrades, such as increased closed circuit television monitoring, installation of X-ray machines for weapons screening at the front entrance of the hospital, and parking access controls the Surgery/Emergency Facility Replacement Project is not expected to significantly impact the level or quality of services provided by this police protection agency.

Sincerely,

Mary Werk, Architect
Director, Hospital Planning and Architecture

FAX TRANSMISSION

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
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To:	Sigma Engineering, Inc. Attn. Lauren Pflaum	**Date:**	03-19-02
Fax #-	805-983-4992	**Pages:**	1
From:	Tom Glasner/ Industrial Waste Section TG		
Subject:	Harbor-UCLA Medical Center/ IW Permit No. 11262/ Planned Emergency Dept. and Surgery Pavillion		

Your letter of 02-22-02 concerning Districts trunk sewer capacity for increased flow

COMMENTS:

Dear Lauren Pflaum:

A quick check of the sewer capacities of Districts' trunk lines that are located within and near the subject facility shows that there seems to be enough capacity in these trunk sewers for the proposed 215 gpm discharge for the subject future construction project. The checked trunk lines are 1) a 54 inch diameter trunk sewer (Joint Outfall D, Unit 8) running North to South across the subject facility, and 2) a 63 inch diameter trunk sewer (District 5 Interceptor) running West to East along South Drive and 220th Street. As you know, the planned building(s) will need to be permitted by the Los Angeles County Department of Public Works and the Districts prior to any construction. If you have additional questions concerning this matter, please call.

APPENDIX E
TRAFFIC STUDY

DRAFT

TRAFFIC STUDY
FOR THE
HARBOR-UCLA MEDICAL CENTER
SURGERY/EMERGENCY REPLACEMENT PROJECT

JUNE 2005

PREPARED FOR

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PREPARED BY

KAKU ASSOCIATES
A Corporation

DRAFT

TRAFFIC STUDY
FOR THE
HARBOR-UCLA MEDICAL CENTER
SURGERY/EMERGENCY REPLACEMENT PROJECT

June 2005

Prepared for:

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

Prepared by:

KAKU ASSOCIATES, INC.
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I. INTRODUCTION

This report documents the results of a study conducted by Kaku Associates, Inc. to evaluate the potential traffic impacts of and parking code requirements for the proposed Harbor-UCLA Medical Center Surgery/Emergency Replacement Project. This document includes a description of the assumptions and methods used to conduct the study, as well as a discussion of the results.

PROJECT DESCRIPTION

The Harbor-UCLA Medical Center is located in an unincorporated area of Los Angeles County, bounded by Carson Street on the north, Vermont Avenue on the east, 220th Street on the south, and Normandie Avenue on the west. The County of Los Angeles is proposing to expand the Harbor-UCLA Medical Center by constructing a new Surgery/Emergency (S/E) Building of 190,300 square feet on the existing hospital campus. Figure 1 illustrates the location of the Harbor-UCLA Medical Center, while the proposed project site plan is shown in Figure 2.

The primary objective of the project is to relieve overcrowding at the existing facilities and to accommodate projected future increases in emergency and surgery patient workloads. The project would not change the number of beds at the hospital (553 licensed beds). Existing and projected Emergency Department visits and Surgery Department procedures are as follows:

ESTIMATED PATIENT LOADS

	Actual	Projected		
	1998/99	2005	2010	2020
Emergency Department Daily Visits	86,280	95,545	100,419	110,791
Surgery Department Daily Procedures				
Inpatient	6,000	6,371	6,696	7,397
Outpatient	2,470	2,643	2,778	3,069
Total	8,470	9,014	9,474	10,466
Source: Hamilton Klow Associates, Needs Validation Study (as provided by County of Los Angeles Department of Health Services, December 2001).				

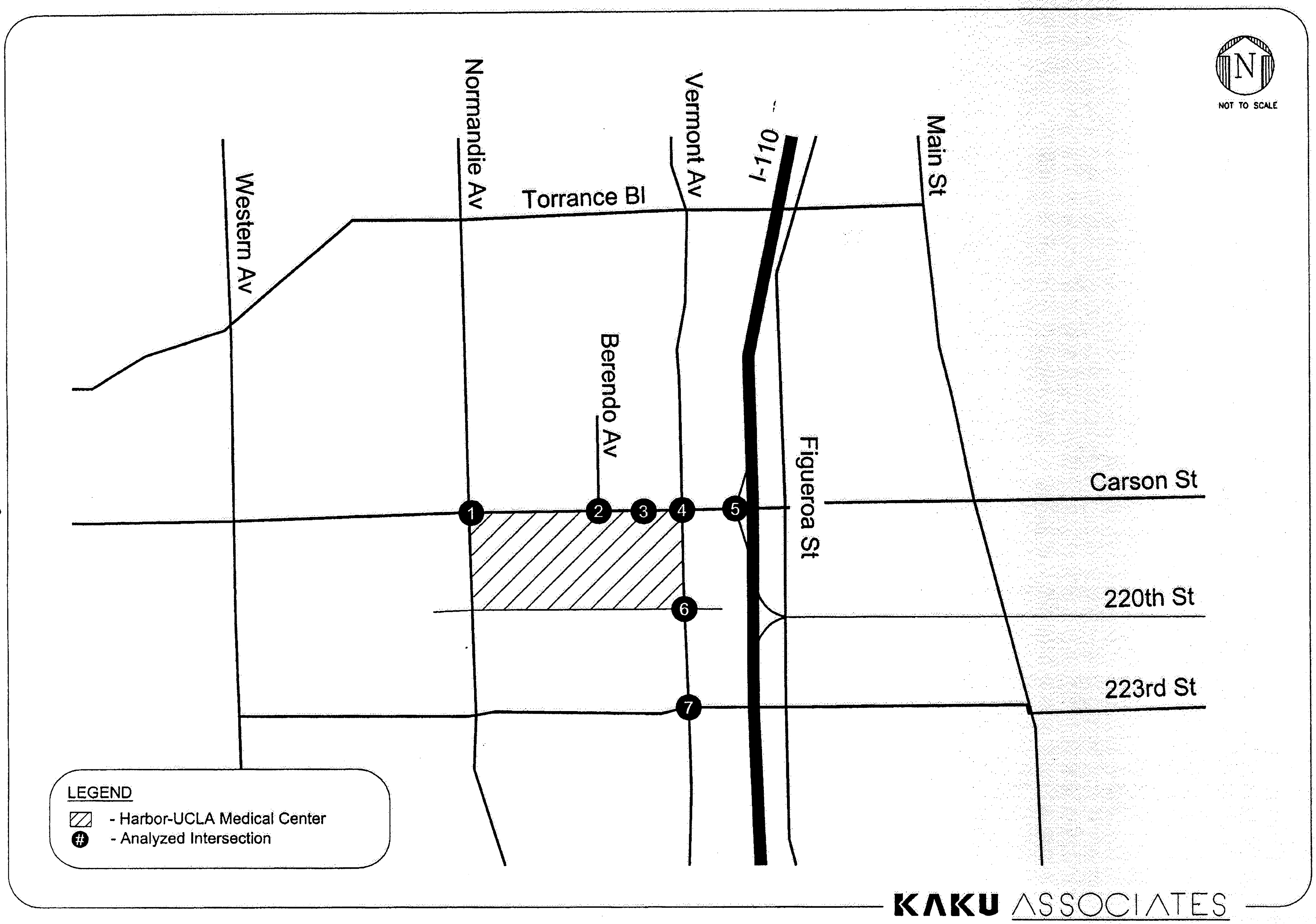
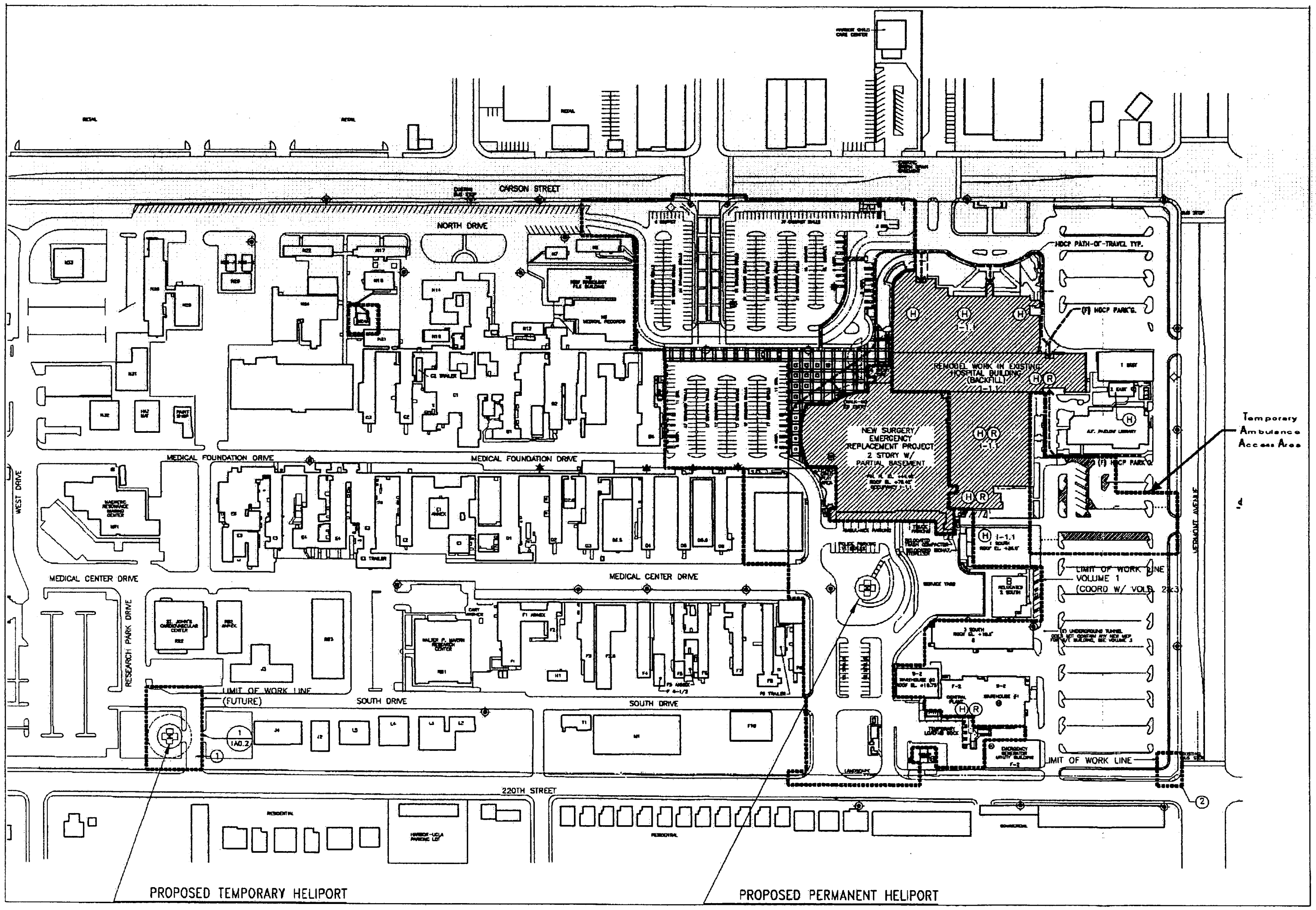


FIGURE 1
PROJECT LOCATION AND STUDY AREA



SOURCE: Leo A. Daly, Planning and Architectural Engineering, April 2005.

KAKU ASSOCIATES

FIGURE 2
PROJECT SITE PLAN

As indicated in Figure 2, the on-site circulation system and parking lot configurations would be modified as part of the project. The new S/E Building would occupy space currently occupied by parking areas, internal circulation streets, and the existing hospital loading dock. Construction of the project, including related relocation of the service yard, includes reconfiguration of parking areas and internal streets and will result in a net reduction in the number of parking spaces provided on the Harbor-UCLA Medical Center campus.

A new driveway would be constructed onto Carson Street opposite Berendo Avenue, approximately 600 feet west of the existing main entrance (which would be retained). A traffic signal would be provided at the new driveway.

STUDY SCOPE

The scope of analysis for this study was developed in consultation with staff of the County of Los Angeles Department of Public Works. The base assumptions, technical methodologies, and geographic coverage of the study were all identified as part of the study approach and are described below.

The study is directed at the analysis of the potential traffic and parking impacts of the proposed project, and assumes completion of the project in the year 2010. The potential impacts of the proposed project are, therefore, directed at the assessment of future conditions in 2010, and include an analysis of the following traffic scenarios:

- Existing (2005) Conditions - The analysis of existing traffic conditions is intended to provide a basis for the remainder of the study. The existing conditions analysis includes an assessment of streets, traffic volumes, and operating conditions.
- Existing Conditions plus Ambient Growth – Future traffic conditions are projected for the anticipated project completion year (year 2010) without the proposed project. The objective of this phase of analysis is to forecast the future traffic growth and intersection operating conditions expected to result from general regional (ambient) growth by the year 2010. This scenario is used as the baseline against which potential project traffic impacts are evaluated.
- Existing Conditions plus Ambient Growth and Project Traffic – This is analysis of future traffic conditions with traffic expected to be generated by the proposed project added to the year 2010 ambient growth forecast. The incremental impacts of the proposed project on future traffic operating conditions can then be identified.

- Cumulative Base Conditions (2010) - Future traffic conditions are projected for the year 2010 without the proposed project. The objective of this phase of analysis is to forecast the future traffic growth and intersection operating conditions expected to result from general regional (ambient) growth and specific related projects proposed for development in the vicinity of the project site by the year 2010.

- Cumulative plus Project (2010) - This is an analysis of future traffic conditions with all projected cumulative future traffic growth including ambient growth, related projects, and traffic expected to be generated by the proposed project.

The following seven intersections, the locations of which are illustrated in Figure 1, are analyzed in this study for each of the scenarios described above:

1. Carson Street & Normandie Avenue
2. Carson Street & Berendo Avenue
3. Carson Street & Harbor Cove Luxury Apartments Driveway & Harbor-UCLA Medical Center existing east driveway
4. Carson Street & Vermont Avenue
5. Carson Street & Harbor Freeway southbound ramps
6. Vermont Avenue & 220th Street
7. Vermont Avenue & 223rd Street

The study also includes an assessment of parking code requirements for the project.

Analyses of potential project impacts in accordance with Los Angeles County Congestion Management Program (CMP) on the regional CMP highway system requirements is not required since the project would not add 50 or more peak hour trips to a designated CMP arterial monitoring intersection, nor 150 or more peak hour trips to a freeway link.

ORGANIZATION OF REPORT

This report is divided into six chapters, including this one. The following chapters include Chapter II, which describes the existing conditions in the study area including the circulation system, traffic volumes, and traffic conditions within the study area. The methodologies used to forecast future year 2010 cumulative traffic conditions are described in Chapter III. Chapter IV presents an assessment of the potential traffic impacts for the year 2010 cumulative plus project scenario, i.e., future conditions including the addition of project traffic. Chapter V contains an analysis of parking code requirements. Finally, a summary of the analyses and study conclusions are included in

Chapter VI. Appendices to this report include details of the technical analysis and supporting calculation worksheets.

II. EXISTING CONDITIONS

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions within the study area. The assessment of conditions relevant to this study includes an inventory of the street system, traffic volumes on these facilities, and operating conditions at key intersections.

EXISTING STREET SYSTEM

Primary regional access to the study area is provided by the Harbor Freeway (Interstate 110) and the San Diego Freeway (Interstate 405). The Harbor Freeway runs in a north-south direction approximately one-eighth of a mile east of the medical center, with access available via an interchange at Carson Street. The San Diego Freeway runs in an east-west direction within the study area, approximately two miles north of the medical center, with access available via the Harbor Freeway or via ramps at Normandie Avenue and Vermont Avenue.

Vermont Avenue and Normandie Avenue are north-south arterial facilities serving the study area (bounding the east and west sides of the medical center campus, respectively). Both provide four through lanes in the study area.

East-west streets include Carson Street (bounding the campus on the north), 220th Street (bounding the campus on the south), and 223rd Street (about one-quarter mile to the south). Carson Street provides four through lanes west of Vermont Avenue and five through lanes east of Vermont Avenue in the vicinity of the Harbor Freeway interchange. 220th Street and 223rd Street provide two and four through lanes, respectively.

Diagrams of the existing lane configurations at the seven analyzed intersections are contained in Appendix A.

EXISTING INTERSECTION TRAFFIC VOLUMES AND LEVELS OF SERVICE

The following sections present the existing peak hour traffic volumes at the study intersections, a description of the methodology utilized to analyze the intersection traffic conditions, and the resulting level of service at each location under existing conditions.

Existing Traffic Volumes

Weekday morning and evening peak hour traffic counts were conducted at the seven study intersections in January of 2005. Traffic count data sheets are contained in Appendix B, and the existing traffic volumes are illustrated in Figure 3.

Level of Service Methodology

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS D is typically considered to be the minimum acceptable level of service in urban areas.

The County of Los Angeles Department of Public Works requires that the "Intersection Capacity Utilization" (ICU) method of intersection capacity analysis be used to determine the intersection volume to capacity (V/C) ratio and corresponding level of service for the turning movements and intersection characteristics at signalized intersections. Table 1 defines the ranges of V/C ratios and their corresponding levels of service using the ICU method.

One of the seven analyzed intersections (Carson Street/Berendo Avenue) is currently unsignalized and controlled by stop signs on the minor approach. This intersection was analyzed using the "Two Way Stop" method from the 2000 Highway Capacity Manual (HCM). The HCM methodology determines the average vehicle delays to find the corresponding LOS based on the definitions in Table 2.

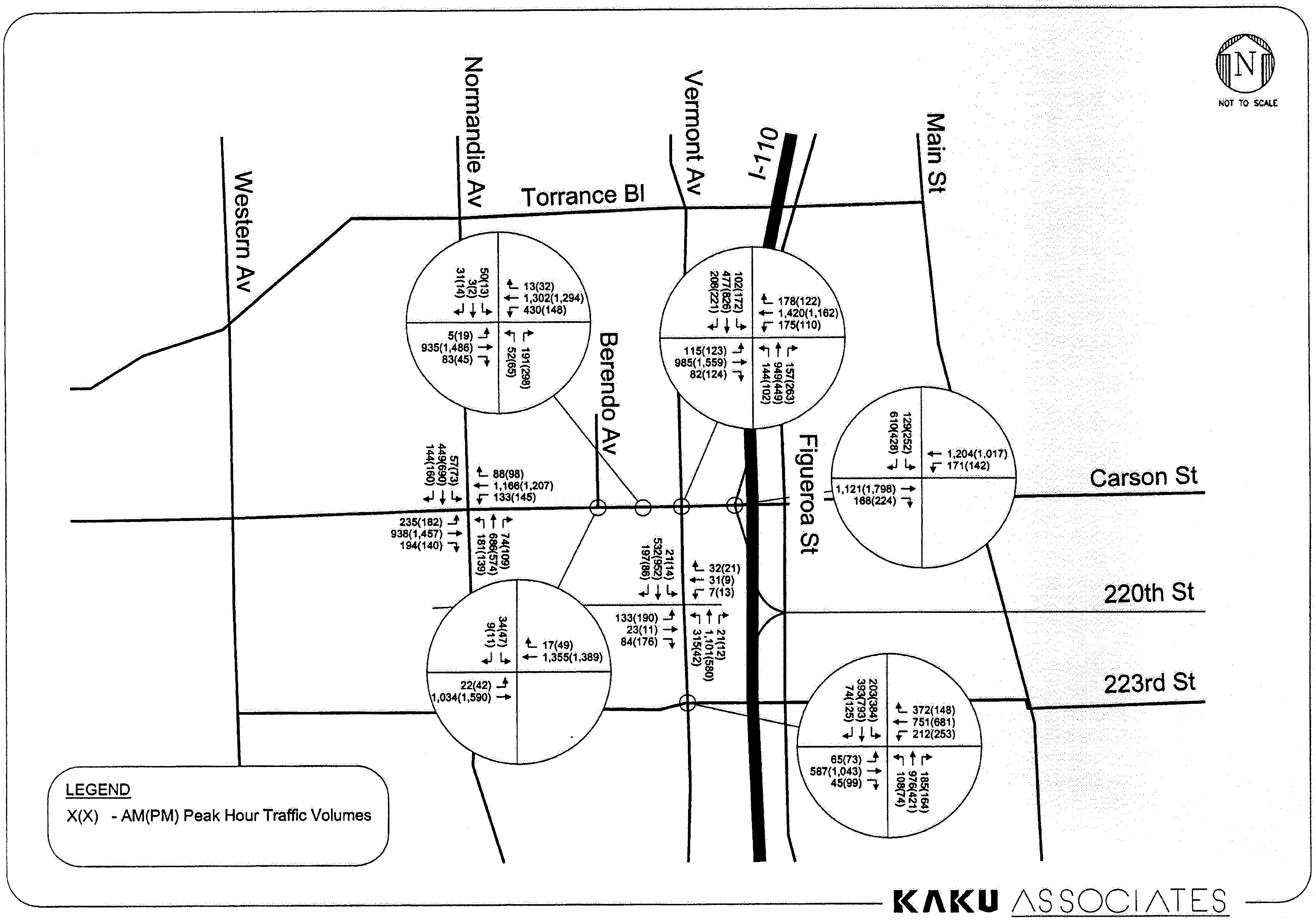


FIGURE 3
EXISTING PEAK HOUR TRAFFIC VOLUMES

TABLE 1
LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS

Level of Service	Intersection Capacity Utilization	Definition
A	0.000-0.600	EXCELLENT. No Vehicle waits longer than one red light and no approach phase is fully used.
B	0.610-0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.710-0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.810-0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.910-1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths

Source: Transportation Research Board

TABLE 2
LEVEL OF SERVICE DEFINITIONS FOR
TWO-WAY STOP-CONTROLLED INTERSECTIONS

Level of Service	Average Control Delay (seconds/vehicle)
A	$\leq$ 10
B	> 10 and $\leq$ 15
C	> 15 and $\leq$ 25
D	> 25 and $\leq$ 35
E	> 35 and $\leq$ 50
F	> 50

Source: Transportation Research Board, *Highway Capacity Manual 2000.*

Existing Levels of Service

The existing weekday a.m. and p.m. peak hour turning movements presented in Figure 3 were used in conjunction with the level of service methodologies described above to determine existing operating conditions at each of the study intersections. Level of service calculation worksheets are included in Appendix C.

Table 3 summarizes the a.m. and p.m. peak hour V/C ratios and corresponding LOS at each of the study intersections. As shown in the Table 3, four of the study intersections (Normandie/Carson, Berendo/Carson, Vermont/Carson, and Vermont/223rd) currently operate at poor levels of service (LOS E or F) during one or both peak hours. The Vermont/220th intersection and the main medical center entrance at Carson each operate at good levels of service (LOS C or better) during both peak hours.

TABLE 3
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Existing (2005) V/C or Delay	Existing (2005) LOS
1. Normandie Avenue & Carson Street	AM PM	0.937 1.043	E F
2. Berendo Avenue & Carson Street [a]	AM PM	** **	F F
3. Medical Center Driveway & Carson Street	AM PM	0.773 0.773	C C
4. Vermont Avenue & Carson Street	AM PM	0.977 0.978	E E
5. I-110 SB Ramps & Carson Street	AM PM	0.857 0.878	D D
6. Vermont Avenue & 220th Street	AM PM	0.679 0.694	B B
7. Vermont Avenue & 223rd Street	AM PM	0.982 1.038	E F

[a] Two-way stop controlled intersection analyzed with HCM 2000 methodology. Values indicate delay in seconds per vehicle and level of service for worst-case stop controlled movement at intersection. Through movements on the major approaches are unimpeded.

** Indicates oversaturated conditions. Delay cannot be calculated.

III. FUTURE TRAFFIC PROJECTIONS

Estimates of future traffic conditions both with and without the proposed project were necessary to evaluate the potential impact of the proposed project on the local street system. The existing plus ambient growth scenario represents projected future traffic conditions at the project completion year due to ambient background growth. The existing plus ambient growth plus the project scenario represents the ambient growth with the proposed development.

The cumulative case traffic scenario represents future traffic conditions with ambient background growth as well as growth due to related projects, without the addition of the proposed project. The cumulative plus project scenario represents cumulative future traffic conditions with the development of the proposed project. The development of these future traffic scenarios is further described in this chapter.

EXISTING PLUS AMBIENT GROWTH

The existing plus ambient growth traffic projections reflect anticipated future traffic increases that can be expected from general increases in traffic due to regional growth and development. The methods and assumptions used to develop the existing plus ambient growth traffic projections are described below.

Regional Growth and Development

Existing traffic is expected to increase between 2005 (the count year) and year 2010 (the projected completion date of the proposed project) as a result of general areawide and regional growth and development. An ambient traffic growth factor of 1% per year (5% total) was used to adjust the existing year 2005 traffic volumes to reflect the effects of regional growth and development by the year 2010.

The resulting traffic volumes, illustrated in Figure 4, represent future year 2010 existing plus ambient growth traffic conditions without the proposed project for the weekday a.m. and p.m. peak hours.

PROJECT TRAFFIC VOLUMES

Development of future traffic forecasts for the proposed project involved the use of a three-step process that includes estimation of the project's trip generation, trip distribution, and traffic assignment.

Project Trip Generation

Typically, trip generation rates from standard sources such as the Institute of Transportation Engineers are used to estimate trip generation for proposed development projects. Standard trip generation rates for hospital uses provide trip generation data based on hospital beds. The proposed project, however, is intended to alleviate overcrowding and to accommodate projected increases in emergency visits and surgical procedures. It will not increase the number of hospital beds, nor is it anticipated that the number of medical center employees would increase significantly. Therefore, trip generation forecasts for the proposed project were developed based on the projected increases in patient workloads that could be accommodated by the expanded surgery/emergency area.

Data regarding existing and projected Emergency Department patient visits and Surgery Department procedures was provided by the County of Los Angeles Department of Health Services. This information is summarized in Table 4. As can be seen, Emergency Department visits are projected to increase from approximately 86,280 annual visits and about 283 daily visits in 1998/99 to over 110,000 annual visits and about 363 daily visits by the year 2020. Total Surgery Department procedures are projected to increase from about 8,470 annual procedures in 1998/99 to over 10,000 annual procedures by the year 2020. Since the number of beds at the hospital will not be changed by the project, however, it is anticipated that only the increase in outpatient surgical procedures would generate new patient trips. Outpatient surgical procedures are projected to increase from about 2,470 annual visits and 10 daily visits in

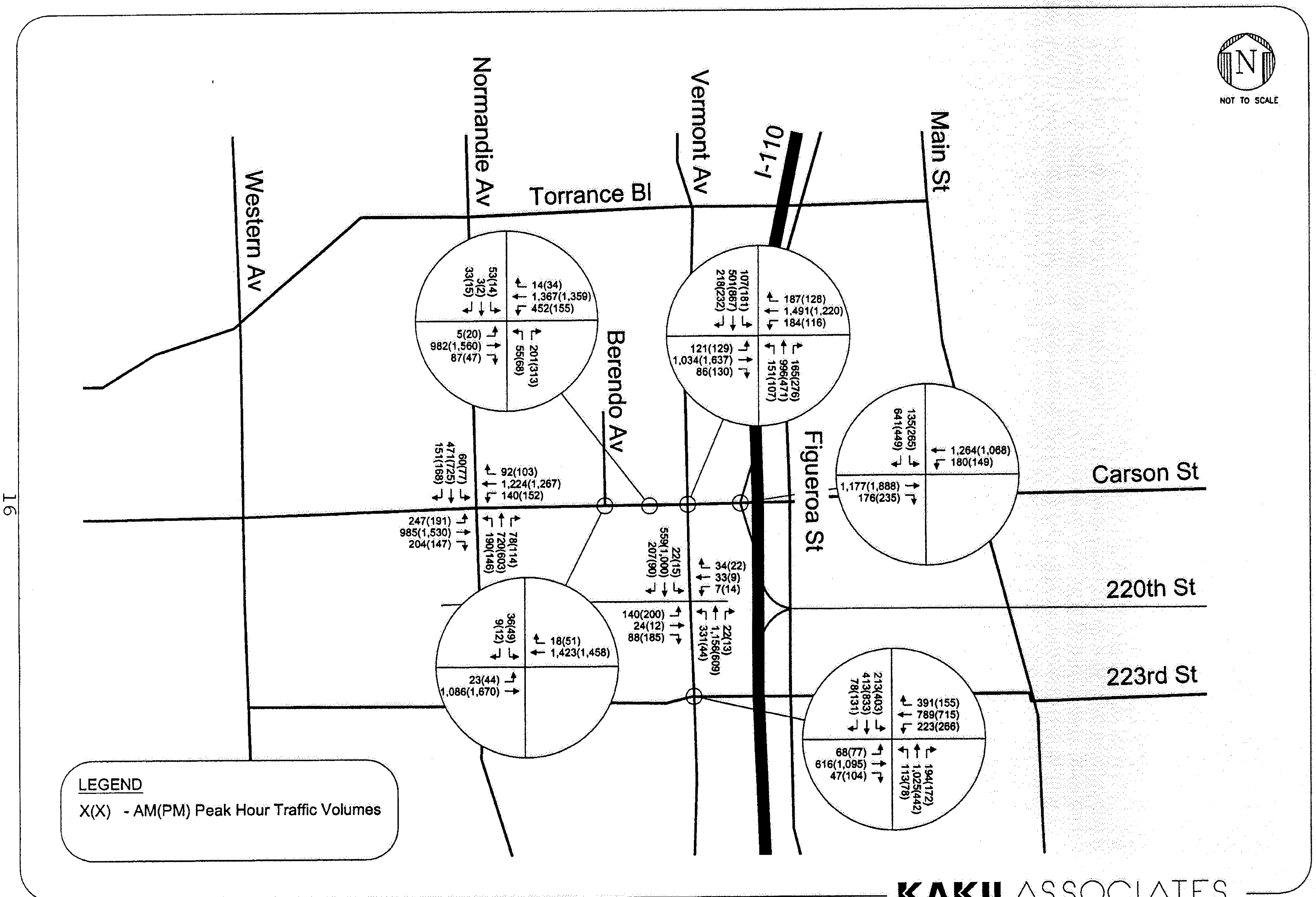


FIGURE 4
EXISTING PLUS AMBIENT PEAK HOUR TRAFFIC VOLUMES

TABLE 4

EMERGENCY DEPARTMENT AND SURGERY DEPARTMENT PATIENT/PROCEDURE PROJECTIONS

	1998/99	2005	2010	2020	Notes
Emergency Department					
Annual ED Visits	86,280	95,545	100,419	110,791	[a]
Daily to Annual Ratio	0.00328	0.00328	0.00328	0.00328	[b]
Average Daily Visits	283	313	329	363	[c]
Change from Existing	0	30	46	80	
Surgery Department					
Annual Procedures:					
Inpatient	6,000	6,371	6,696	7,397	[a]
Outpatient	2,470	2,643	2,778	3,069	[a]
Total	8,470	9,014	9,474	10,466	[a]
Daily to Annual Ratio	0.004	0.004	0.004	0.004	[d]
Average Daily Procedures:					
Inpatient	24	25	27	30	
Outpatient	10	11	11	12	
Total	34	36	38	42	
Change from Existing:					
Inpatient	0	1	3	6	
Outpatient	0	1	1	2	
Total	0	2	4	8	

Notes:

a. Source: Hamilton Klow Associates, Needs Validation Study (as provided by the County of Los Angeles Department of Health Services, December 2001).

b. Assumes 10% of annual workload in peak month, across 30.5 days.

c. 2005, 2010 & 2020 daily visits from Hamilton Klow; 1998/99 estimated using same daily to annual ratio.

d. Assumes 10 hours/day, 5 days/week (250 days/year).

1998/99 to over 3,000 annual visits and 12 daily visits in the year 2020. Thus, a net increase of only 82 daily patient visits (80 Emergency Department and two outpatient Surgery Department) is projected by the year 2020. To present a worst-case conservative analysis, all of the projected patient growth to 2020 was utilized in the trip generation and traffic impact analysis.

In order to estimate increases in trips that may be generated by these increased patient loads, a series of assumptions were made. It was assumed that:

- 25% of the daily patients would arrive at the site during the a.m. peak hour and 25% would depart during the p.m. peak hour. (Note: if patient arrivals and departures were distributed evenly throughout a ten hour day, only 10% would arrive or depart during any given hour. Assuming 25% provides for clustering of arrivals and departures.)
- There would be one outbound trip for every three inbound trips during the a.m. peak hour and one inbound trip for every three outbound trips during the p.m. peak hour to account for patients who are dropped off/picked-up or who have visits of less than one hour.
- There would be an average of three daily trips per patient, since some patients would generate only two trips (one in and one out), while others may generate four or more (if they were dropped-off/picked-up or if they have visitors).

Utilizing these assumptions, the estimated number of new trips that would be generated by the projected increase in patient loads is shown on Table 5. It is estimated that the project would generate a net increase of approximately 250 daily trips, including about 28 trips each during the a.m. and p.m. peak hours.

Project Trip Distribution and Assignment

The geographic distribution of the traffic generated by the proposed project is dependent on several factors, including existing traffic patterns in the area, the geographic distribution of locations from which patients of the hospital may be drawn, and the location of the project access points in relation to the surrounding street system. The general geographic trip distribution pattern used in the assignment of the traffic generated by the proposed project is illustrated in Figure 5.

The project trip generation estimates summarized in Table 5 and the distribution patterns illustrated in Figure 5 were used to assign the project-generated traffic to the local and regional street system and through the seven study intersections. Figure 6 illustrates the assignment of

TABLE 5
ESTIMATED INCREMENTAL TRIP GENERATION OF PROPOSED PROJECT

	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Trip Generation Rates							
Trips per daily patient [a]	3.0	0.25	0.083	0.333	0.083	0.25	0.333
Incremental Project-Generated Traffic							
82 daily patients [b]	246	21	7	28	7	21	28

Notes:
a. See text for explanation of derivation of trip generation rates.
b. From Table 5. Includes projected increase of 80 daily ED visits and 2 daily outpatient surgery procedures.

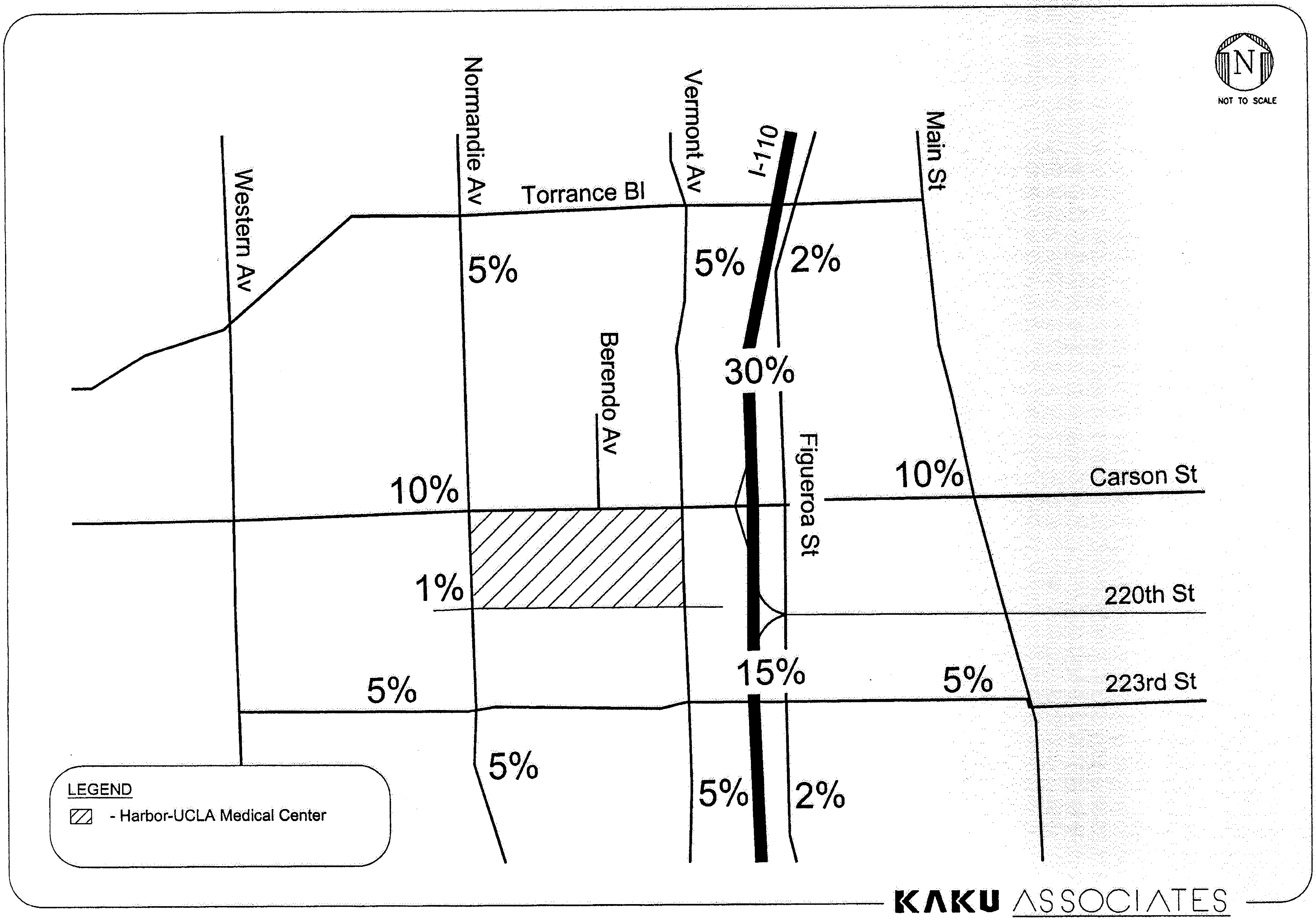


FIGURE 5
PROJECT TRIP DISTRIBUTION PATTERN

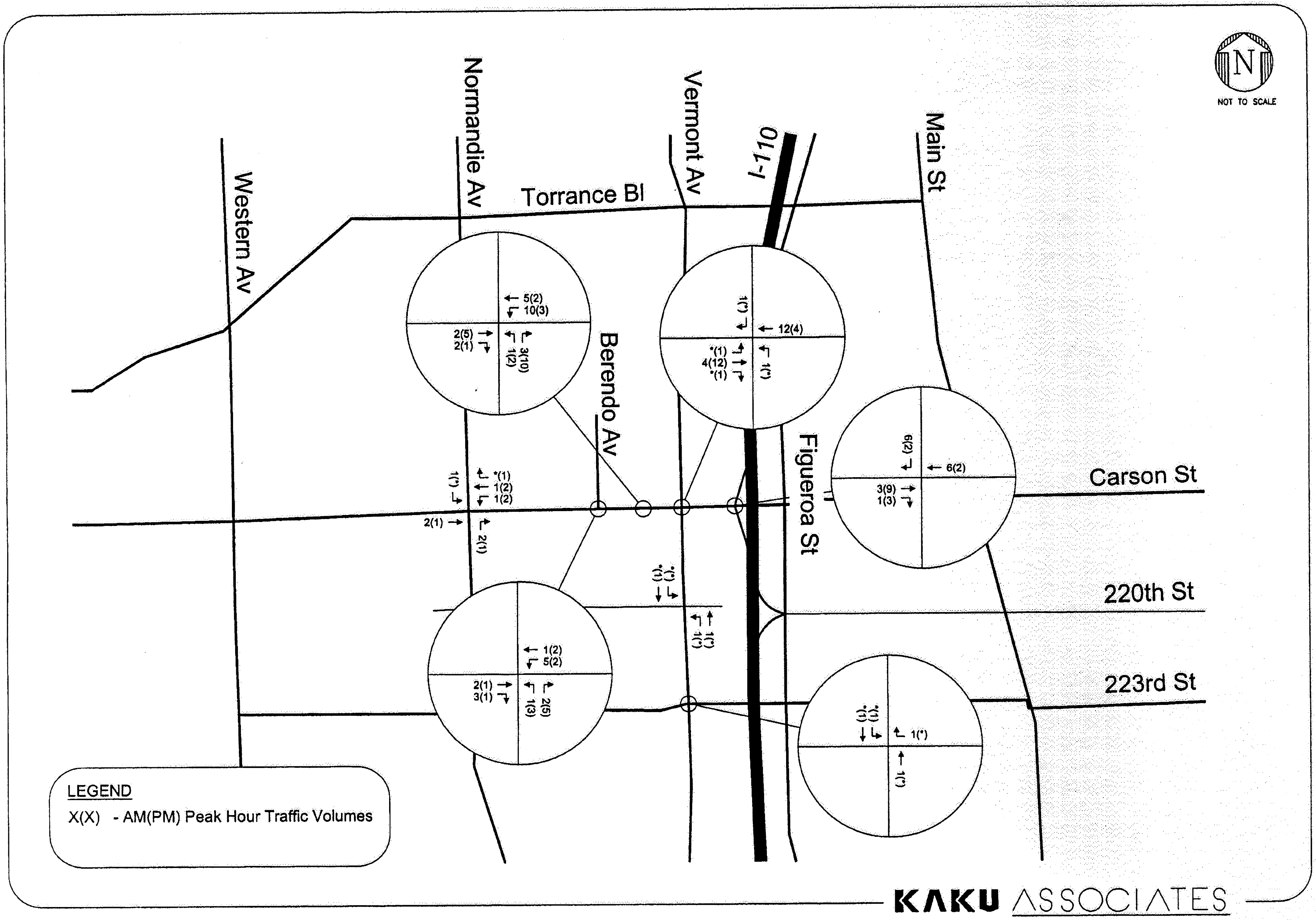


FIGURE 6
PROJECT ONLY PEAK HOUR TRAFFIC VOLUMES

the proposed project-generated peak hour traffic volumes at each of the study intersections during a typical weekday. This assignment took into consideration the new medical center driveway to be constructed onto Carson Street opposite Berendo Avenue as part of the project.

Reassignment of Existing Medical Center Driveway Traffic

In the future conditions with the availability of the new medical center driveway at Berendo Avenue along Carson Street, a portion of the existing traffic using the existing main driveway was re-assigned to utilize the proposed new signalized driveway.

Two-thirds of the existing and future project traffic coming from and going to the west were assigned to enter and leave the new project driveway, while the remaining one-third was assigned to the existing driveway. Two-thirds of the existing and future traffic coming from and going to the east were assigned to enter and leave the existing driveway, while the remaining one-third was assigned to the new driveway.

The basis for this re-assignment was the likelihood of vehicle trip patterns due to the physical locations of the two medical center driveways along Carson Street. Located on the west side, the new driveway at Berendo Avenue would be more attractive for vehicle trips coming to and from the west. Similarly, the existing driveway, located on the east side, would be more attractive for vehicle trips coming to and from the east.

EXISTING PLUS AMBIENT GROWTH PLUS PROJECT

The project-generated traffic volumes shown in Figure 6 were then added to the existing plus ambient growth traffic projections shown in Figure 4. Figure 7 illustrates the resulting projected existing plus ambient growth plus project a.m. and p.m. peak hour traffic volumes. These volumes represent projected future weekday peak hour traffic conditions including the completion of the proposed project. The existing plus project traffic projections include the reassignment of medical center traffic from the existing main driveway to the proposed new driveway.

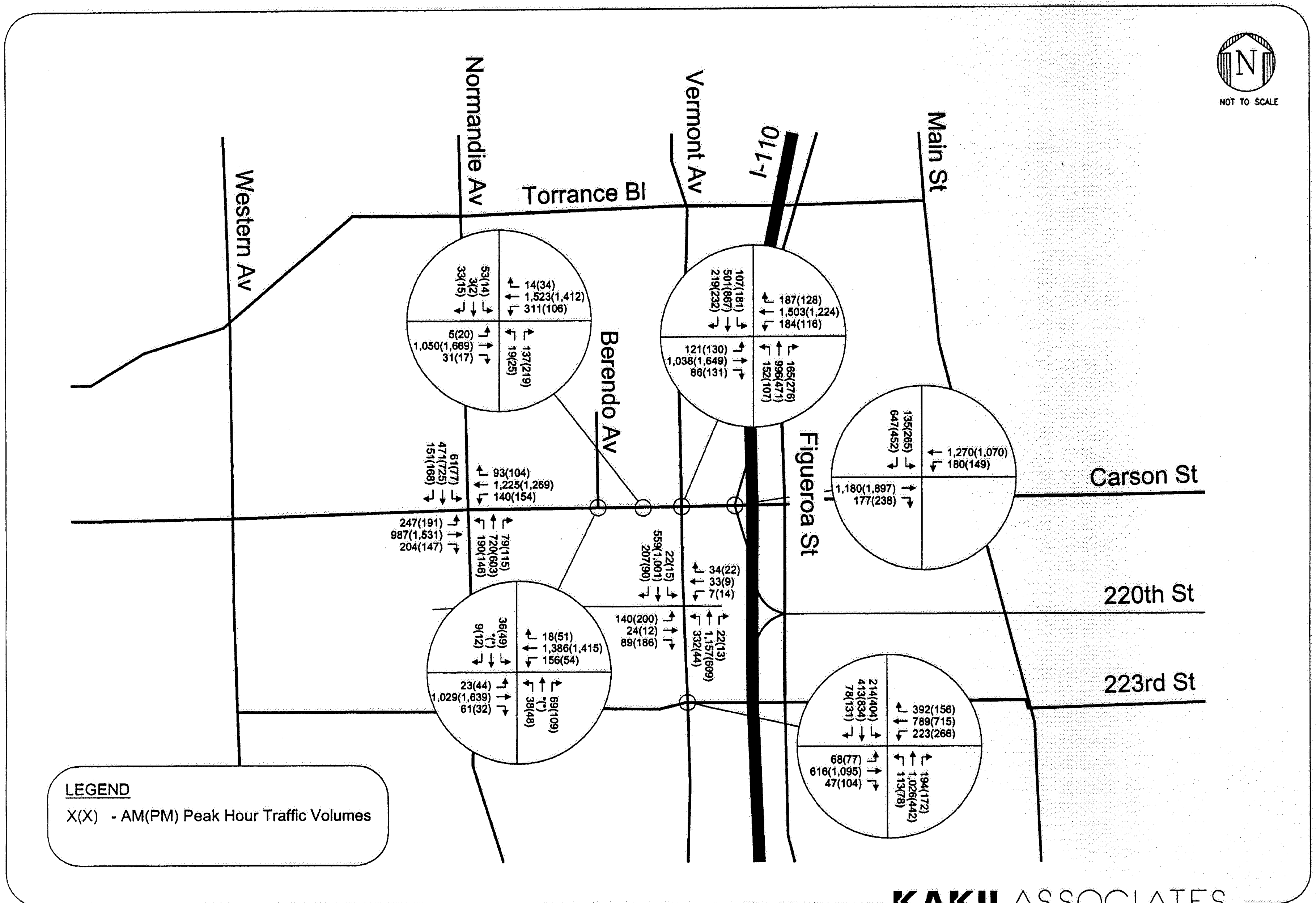


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FIGURE 7

EXISTING PLUS AMBIENT PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES

CUMULATIVE BASE TRAFFIC PROJECTIONS

The cumulative base traffic projections reflect anticipated future traffic increases that can be expected from two sources. The first is the ambient growth, as discussed in the previous section. The second source is traffic generated by specific future projects located within, or in the vicinity of, the study area. The methods and assumptions used to develop the cumulative base traffic projections are described below.

Related Projects Trip Generation and Assignment

The second factor used in the development of the cumulative base traffic forecasts is the consideration of the effects of specific known projects in the vicinity of the project. Information was obtained from the Los Angles County Department of Regional Planning and from each of the three surrounding local jurisdictions within a one-mile radius of the study intersections (the cities of Carson, Los Angeles, and Torrance). A total of ten projects located in unincorporated areas of Los Angeles County and in the cities of Los Angeles, Carson, and Torrance were identified. These projects are listed and described in Table 6, and their locations are illustrated on Figure 8.

Trip Generation. Projected weekday a.m. and p.m. peak hour trip generation for the related projects was estimated through the application of appropriate trip generation rates, shown in Table 7, from the Institute of Transportation Engineers' *Trip Generation, 7th Edition*. As indicated in Table 6, the ten related projects are projected to generate a total of approximately 1,210 daily trips, including about 124 trips during the weekday morning peak hour and about 164 trips during the weekday evening peak hour.

Trip Distribution and Assignment. Utilizing the trip generation estimates described above and trip distribution patterns dependent on the type and density of the proposed land use, the geographic distribution of population from which the employees and potential patrons of proposed commercial projects may be drawn, the geographic distribution of employment and activity centers to which residents of proposed residential projects may be attracted, and the location of the projects in relation to the surrounding street system, traffic expected to be generated by the identified related projects was assigned to the street network. These volumes were then added to the existing traffic volumes as factored to reflect anticipated ambient traffic growth. The resulting

TABLE 6
ESTIMATED TRIP GENERATION OF RELATED PROJECTS

COUNTY OF LOS ANGELES - Department of Regional Planning

Index	Project Name	Project Description	Size	Project Address	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
1	Self Storage	Storage Facility with Office/Manager Unit	135,000 s.f.	735-809 W. Carson Street	338	12	8	20	18	17	35
2	Commercial	Auto Repair	10,000 s.f.	22505 Normandie Avenue		19	10	29	17	17	34
3	Commercial	Smog Check	1,731 s.f	20614 Normandie Avenue		3	2	5	3	3	6
4	SB 1953 Seismic Retrofit - Harbor UCLA Medical Center	Seismic Retrofit / ICU Beds	8 ICU beds	1000 W. Carson Street	[a]						
			-22 Regular Patient beds		[a]						
			Net -14 beds		[a]						
					338	34	20	54	38	37	75

Notes:
Source of related project list: Angelique Carreon, Department of Regional Planning, Los Angeles County of Public Works, email dated January 26, 2005.
[a] The seismic retrofit project will result in a net reduction in the total number of hospital beds. No net increase in traffic is anticipated.

CITY OF LOS ANGELES - Department of Transportation (LADOT)

Index	Project Name	Project Description	Size	Project Address	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
5	Housing Development	2 story single family homes	63 du	Normandie Ave. & Torrance Boulevard	603	12	35	47	40	24	64
					603	12	35	47	40	24	64

Notes:
Source of related project list: Ed Chow, LADOT, fax dated February 1, 2005

CITY OF TORRANCE - Community Development Department

Index	Project Name	Project Description	Size	Project Address	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
6	Industrial Redevelopment Project	Warehouse/Office Building	22,900 s.f.	220th Street & Abalone Street	114	8	2	10	3	8	11
					114	8	2	10	3	8	11

Notes:
Source of related project list: Kevin Joe, Community Development Department, City of Torrance, email dated January 19, 2005.

CITY OF CARSON - Department of Planning

Index	Project Name	Project Description	Size	Project Address	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
7	8 detatched condos	Condominiums	8 units	21840-846 Orrick Ave	47	1	3	4	3	1	4
8	3 condos	Condominiums	3 units	22028 Grace Ave	18	0	1	1	1	1	2
9	8 condos	Condominiums	8 units	630 E. 220th St	47	1	3	4	3	1	4
10	8 condos	Condominiums	8 units	22310-4 S. Figueroa St	47	1	3	4	3	1	4
					159	3	10	13	10	4	14

Notes:
Souce of related project list: Steve Newberg, Department of Planning, City of Carson, February 2005.

	Daily	AM In	AM Out	AM Total	PM In	PM Out	PM Total
Grand Totals	1,214	57	67	124	91	73	164

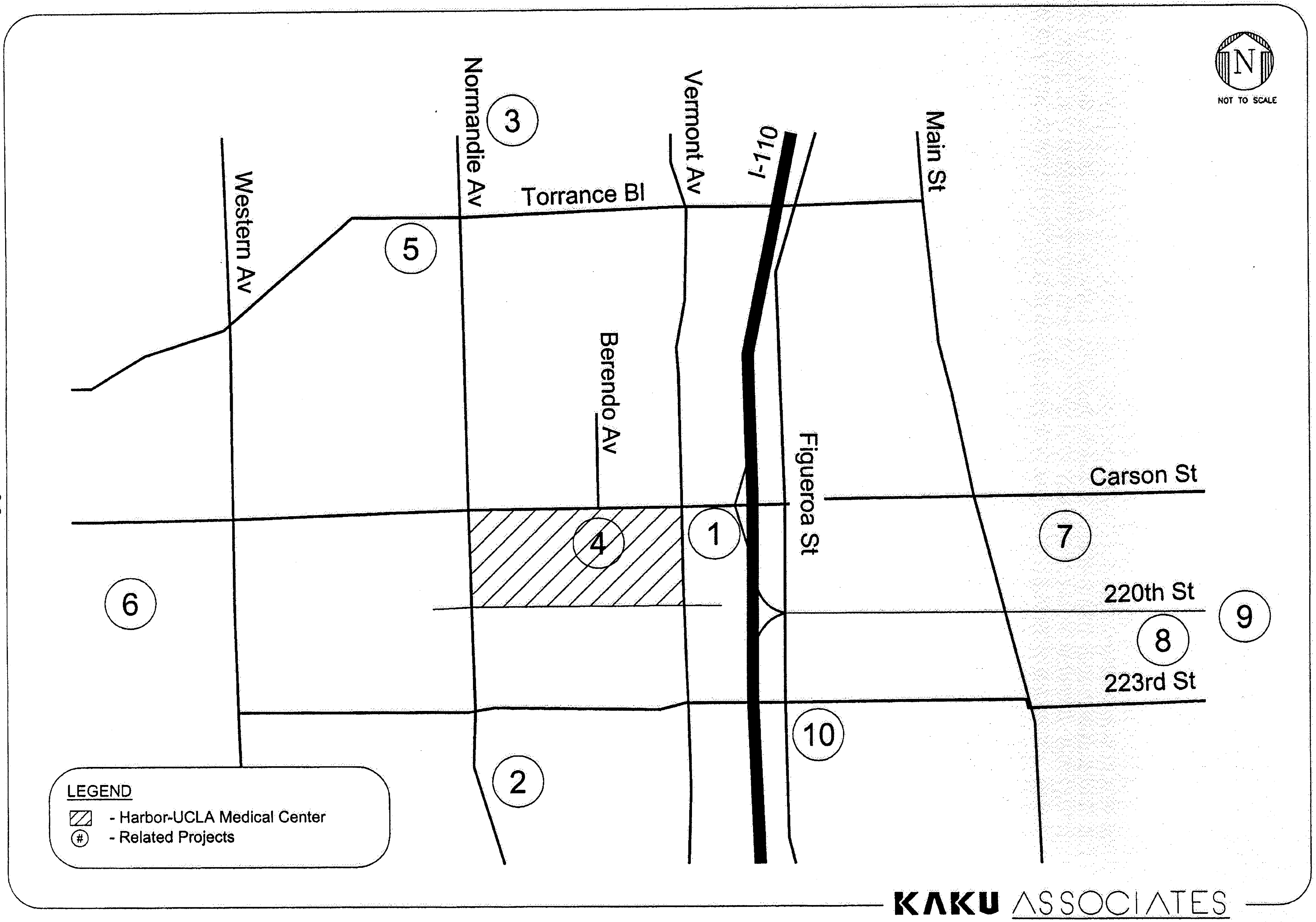


FIGURE 8
LOCATION OF RELATED PROJECTS

TABLE 7
TRIP GENERATION RATES FOR RELATED PROJECTS

Land Use	Average Daily Rate	AM Peak Hour			Weekday - PM Peak Hour		
		Rate	% In	% Out	Rate	% In	% Out
Residential Condominium (Trips per dwelling unit)	5.86	0.44	17%	83%	0.52	67%	33%
Automobile Care Center (Trips per 1,000 sf)	N/A	2.94	65%	35%	3.38	50%	50%
Single Family Detached Housing (Trips per dwelling unit)	9.57	0.75	25%	75%	1.01	63%	37%
Warehousing (Trips per 1,000 sf)	4.96	0.45	82%	18%	0.47	25%	75%
Mini-Warehouse (Trips per 1,000 sf)	2.50	0.15	59%	41%	0.26	51%	49%

Source: Institute of Transportation Engineers, *Trip Generation 7th Edition*, 2003.

traffic volumes, illustrated in Figure 9, represent future year 2010 cumulative base traffic conditions without the proposed project for the weekday a.m. and p.m. peak hours.

CUMULATIVE PLUS PROJECT TRAFFIC PROJECTIONS

The project-generated traffic volumes shown in Figure 6 were then added to the cumulative base traffic projections shown in Figure 9. Figure 10 illustrates the resulting projected cumulative plus project a.m. and p.m. peak hour traffic volumes. These volumes represent projected future weekday peak hour traffic conditions including the completion of the proposed project. The cumulative plus project traffic projections include the reassignment of medical center traffic from the existing main driveway to the proposed new driveway.

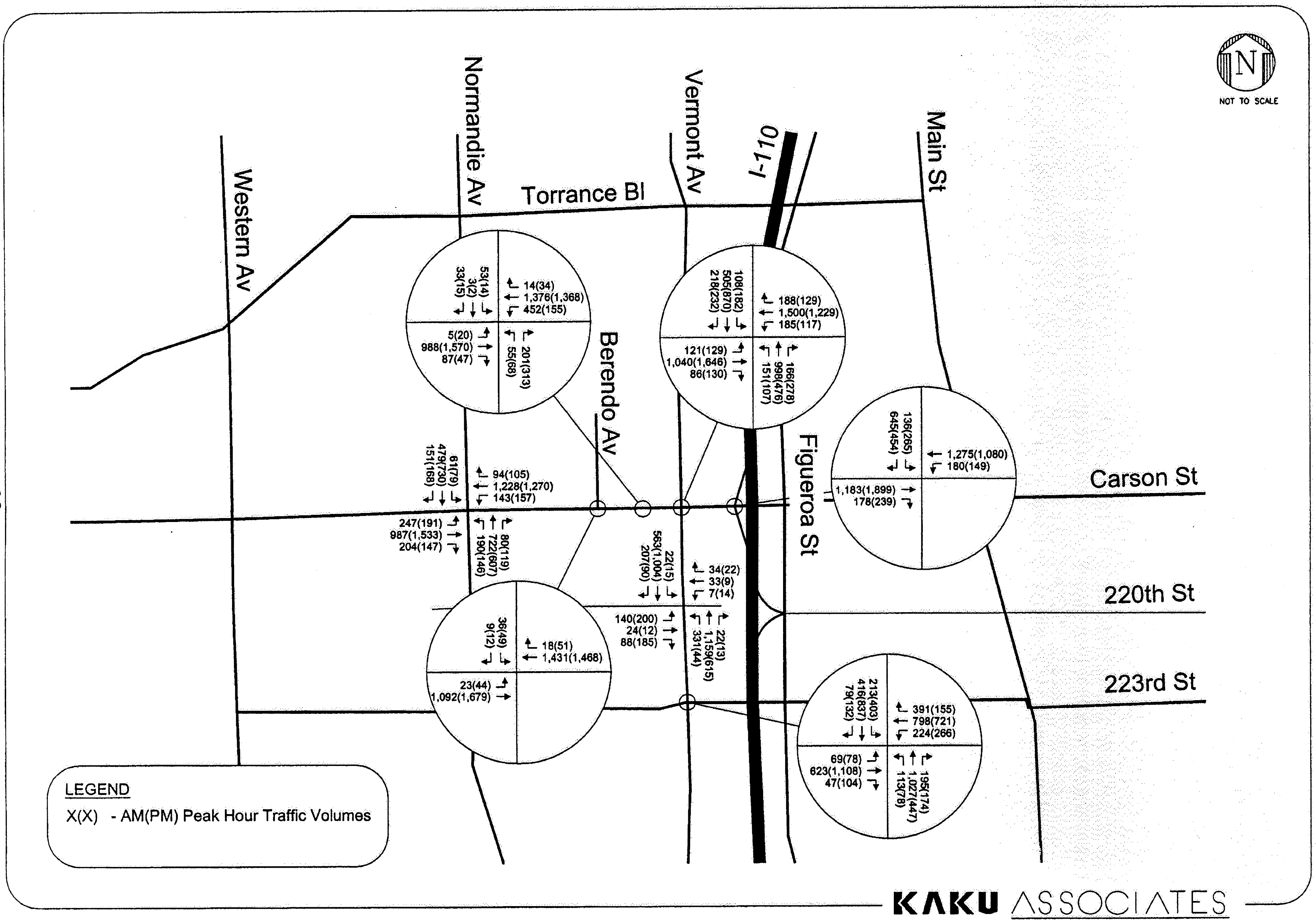


FIGURE 9
CUMULATIVE BASE PEAK HOUR TRAFFIC VOLUMES

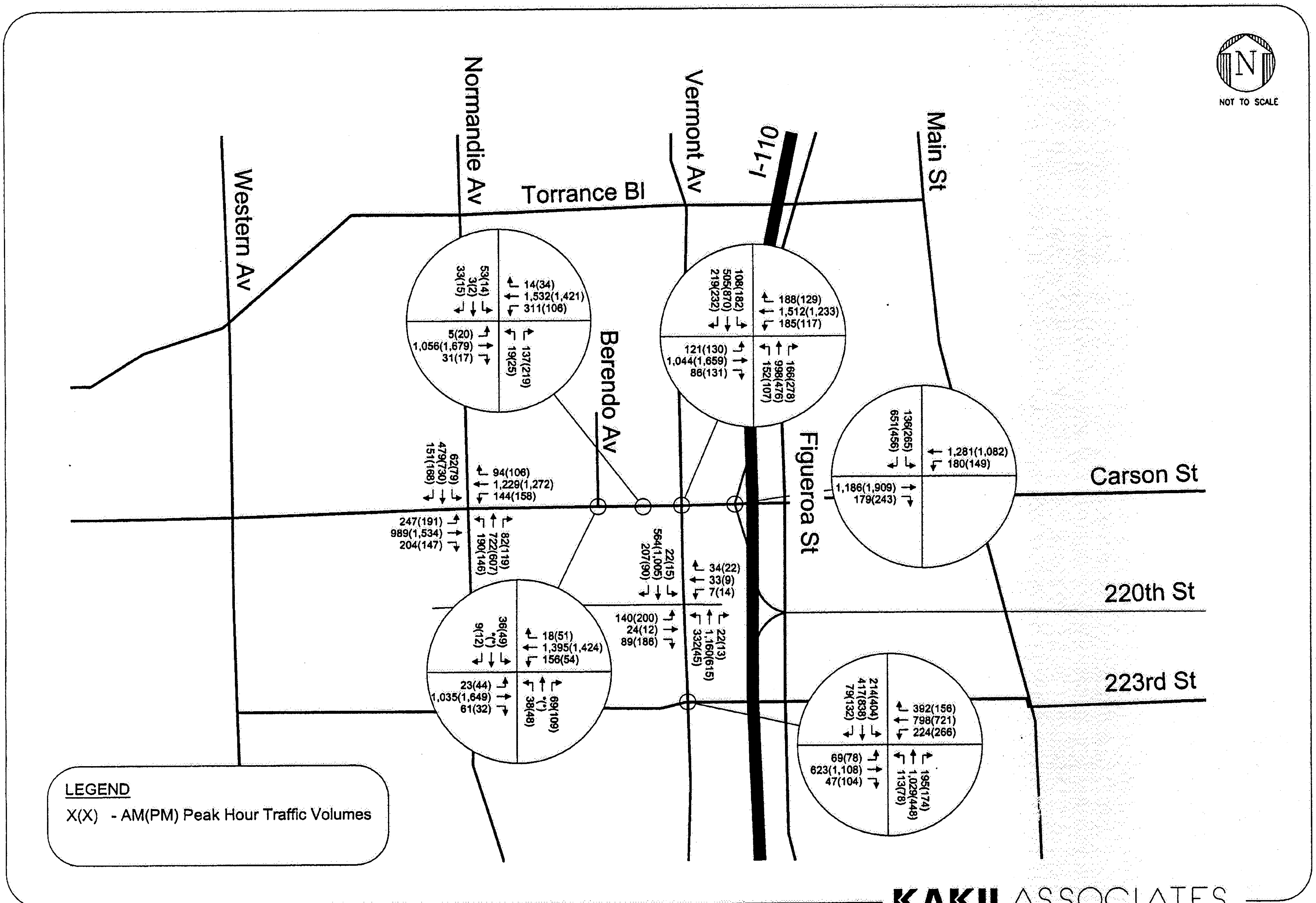


FIGURE 10
CUMULATIVE PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES

IV. TRAFFIC IMPACT ANALYSIS

This section presents an analysis of the potential impacts of the proposed project on the local street system. The analysis compares the projected levels of service at each study intersection with the proposed project to the cumulative base (no project) scenario to determine potential project impacts, using significance criteria established by the County of Los Angeles.

INTERSECTION SIGNIFICANT IMPACT CRITERIA

The County of Los Angeles Department of Public Works has established threshold criteria that are used to determine if a project has a significant traffic impact at a specific intersection. Under the County's guidelines, a project impact would be considered significant if the following conditions are met:

Pre-project Intersection Condition		Project-related Increase
LOS	V/C Ratio	in V/C Ratio
C	0.71 - 0.80	0.04 or more
D	0.81 - 0.90	0.02 or more
E, F	0.91 or more	0.01 or more

EXISTING PLUS AMBIENT TRAFFIC CONDITIONS

The existing plus ambient growth peak hour traffic volumes are illustrated in Figure 4, while the existing plus ambient growth plus project peak hour traffic volumes are illustrated in Figure 5. Volumes in the figures were used to determine the V/C ratio and LOS for all study intersections. The analysis represents the projected ambient future conditions in year 2010 without and with the proposed project. Table 8 summarizes the results of the analysis.

As indicated in the table, four of the study intersections (Normandie/Carson, Vermont/Carson, I-110 southbound ramps/Carson, and Vermont 223rd) are projected to operate at poor levels of

TABLE 8
FUTURE INTERSECTION LEVEL OF SERVICE ANALYSIS
AMBIENT AND AMBIENT PLUS PROJECT

Intersection	Peak Hour	Existing Plus Ambient		Existing Plus Ambient Plus Project		Project Increase in V/C	Significant Project Impact
		V/C or Delay	LOS	V/C or Delay	LOS		
1. Normandie Avenue & Carson Street	AM	0.978	E	0.979	E	0.001	NO
	PM	1.089	F	1.090	F	0.001	NO
2. Berendo Avenue & Carson Street	AM	** [a]	F	0.643 [b]	B	n/a	NO
	PM	**	F	0.785	C	n/a	NO
3. Medical Center Driveway & Carson Street	AM	0.807	D	0.700	B	-0.107	NO
	PM	0.807	D	0.773	C	-0.034	NO
4. Vermont Avenue & Carson Street	AM	1.020	F	1.024	F	0.004	NO
	PM	1.023	F	1.026	F	0.003	NO
5. I-110 SB Ramps & Carson Street	AM	0.896	D	0.901	E	0.005	NO
	PM	0.916	E	0.921	E	0.005	NO
6. Vermont Avenue & 220th Street	AM	0.709	C	0.709	C	0.000	NO
	PM	0.726	C	0.727	C	0.001	NO
7. Vermont Avenue & 223rd Street	AM	1.026	F	1.027	F	0.001	NO
	PM	1.085	F	1.086	F	0.001	NO

Notes:
[a] The intersection of Berendo Avenue & Carson Street is unsignalized in the Existing Plus Ambient conditions.
[b] The intersection of Berendo Avenue & Carson Street is signalized in the Existing Plus Ambient Plus Project conditions.
** Indicates oversaturated conditions. Delay cannot be calculated.

service (LOS E or F) during one or both of the weekday peak hours under future ambient conditions both without and with the proposed project. Poor levels of service are also projected for the stop-controlled movements on southbound Berendo Avenue at the Caron/Berendo intersection under ambient without project conditions. With construction of the new project driveway opposite Berendo and signalization of the intersection, however, the Carson/Berendo intersection is projected to operate at good levels of service with the project.

CUMULATIVE TRAFFIC CONDITIONS

The cumulative base and cumulative plus project peak hour traffic volumes are illustrated in Figures 9 and 10, respectively. Volumes in the figures were used to determine the V/C ratio and LOS for all study intersections. The analysis represents the projected cumulative future conditions in year 2010 without and with the proposed project. Table 9 summarizes the results of the analysis.

The projected cumulative conditions shown in Table 9 are similar to the conditions with ambient growth presented in Table 8. The Normandie/Carson, Vermont/Carson, I-110 southbound ramps/Carson, and Vermont 223rd intersections are projected to operate at poor levels of service (LOS E or F) during one or both of the weekday peak hours under future cumulative conditions both without and with the proposed project. The poor levels of service projected for the stop-controlled movements on southbound Berendo Avenue at the Caron/Berendo intersection under cumulative base conditions would be alleviated with construction of the new project driveway opposite Berendo and signalization of the intersection.

PROJECT TRAFFIC IMPACTS

<u>Existing plus Ambient Growth plus Project</u>

The existing plus ambient growth plus project peak hour traffic volumes illustrated in Figure 7 were analyzed to determine the projected year 2010 ambient future operating conditions with the completion of the proposed project. As shown in Table 8, using the significant traffic impact criteria established by the County of Los Angeles, it was determined that the proposed project

TABLE 9
FUTURE INTERSECTION LEVEL OF SERVICE ANALYSIS
CUMULATIVE AND CUMULATIVE PLUS PROJECT

Intersection	Peak Hour	Cumulative Base V/C or Delay	Cumulative Base LOS	Cumulative Plus Project V/C or Delay	Cumulative Plus Project LOS	Project Increase in V/C	Significant Project Impact
1. Normandie Avenue & Carson Street	AM	0.983	E	0.983	E	0.000	NO
	PM	1.095	F	1.096	F	0.001	NO
2. Berendo Avenue & Carson Street	AM	** [a]	F	0.646 [b]	B	n/a	NO
	PM	** [a]	F	0.788 [b]	C	n/a	NO
3. Medical Center Driveway & Carson Street	AM	0.809	D	0.702	C	-0.107	NO
	PM	0.810	D	0.776	C	-0.034	NO
4. Vermont Avenue & Carson Street	AM	1.025	F	1.029	F	0.004	NO
	PM	1.026	F	1.030	F	0.004	NO
5. I-110 SB Ramps & Carson Street	AM	0.901	E	0.907	E	0.006	NO
	PM	0.922	E	0.926	E	0.004	NO
6. Vermont Avenue & 220th Street	AM	0.710	C	0.711	C	0.001	NO
	PM	0.727	C	0.728	C	0.001	NO
7. Vermont Avenue & 223rd Street	AM	1.030	F	1.032	F	0.002	NO
	PM	1.091	F	1.092	F	0.001	NO

Notes:
[a] The intersection of Berendo Avenue & Carson Street is unsignalized in the Cumulative conditions.
[b] The intersection of Berendo Avenue & Carson Street is signalized in the Cumulative Plus Project conditions.
** Indicates oversaturated conditions. Delay cannot be calculated.

would not create significant impacts at any of the seven analyzed intersections during either of the weekday peak hours. Since the project is not expected to create significant impacts at the analyzed intersections, no project mitigation measures would be required.

Cumulative Plus Project

The cumulative plus project peak hour traffic volumes illustrated in Figure 10 were analyzed to determine the projected year 2010 cumulative future operating conditions with the completion of the proposed project. As shown in Table 9, using the significant traffic impact criteria established by the County of Los Angeles, it was determined that the proposed project would not create significant impacts at any of the seven analyzed intersections during either of the weekday peak hours. Since the project is not expected to create significant impacts at the analyzed intersections, no project mitigation measures would be required.

SIGNAL WARRANT ANALYSIS

As part of the proposed project, the study intersection of Carson Street/Berendo Avenue would become a new driveway to the Harbor-UCLA Medical Center. It is proposed that this location be signalized. Using the projected cumulative plus project volumes illustrated in Figure 10, a signal warrant analysis was conducted to assess the need for a traffic signal at the proposed driveway.

Based on the traffic signalization guidelines in the Manual on Uniform Traffic Control Devices (MUTCD), results of the signal warrant analysis showed that in the future conditions with project, the intersection of Carson Street/Berendo Avenue would satisfy MUTCD warrants 1B, 2, and 3. The warrants met are equivalent to the California Department of Transportation (Caltrans) signal warrants 2, 9, and 11. Appendix E contains the signal warrant worksheets.

V. PARKING CODE ANALYSIS

This chapter presents an assessment of the proposed parking supply to be provided on the Harbor-UCLA Medical Center campus in light of the number of spaces that would be required by the County of Los Angeles code.

EXISTING AND FUTURE PARKING SUPPLY

As shown in Table 10 and illustrated in Figure 11, based on information provided by the County of Los Angeles, a total of about 3,324 on-site parking spaces are provided on the medical center campus, including 3,217 spaces on the main campus, 21 spaces at the Child Care Center at 975 Carson Street, and 86 spaces in the LA Bio Med lot on the south side of 220th Street.

The on-site parking lots and access roadways will be reconfigured as part of the project. Construction of the new Surgery/Emergency Building as well as related items such as relocation of the loading area and changes to the internal access system will displace existing parking spaces on the main campus, and new parking lots will be constructed. The proposed project site plan was compared to the campus parking inventory to estimate the number of existing parking spaces that would be displaced and the number of spaces that would be provided in the new parking lots. This analysis was conducted by dividing the project area into a number of parking analysis zones, illustrated in Figures 12 and 13. Table 11 tabulates the results.

As indicated in Table 11, an estimated total of about 992 existing parking spaces would be displaced by the project while approximately 457 new spaces would be provided in parking lots within the project area, resulting in a net reduction of about 535 on-campus parking spaces. After the proposed project is completed, the future total of parking spaces campuswide is estimated at approximately 2,789 spaces.

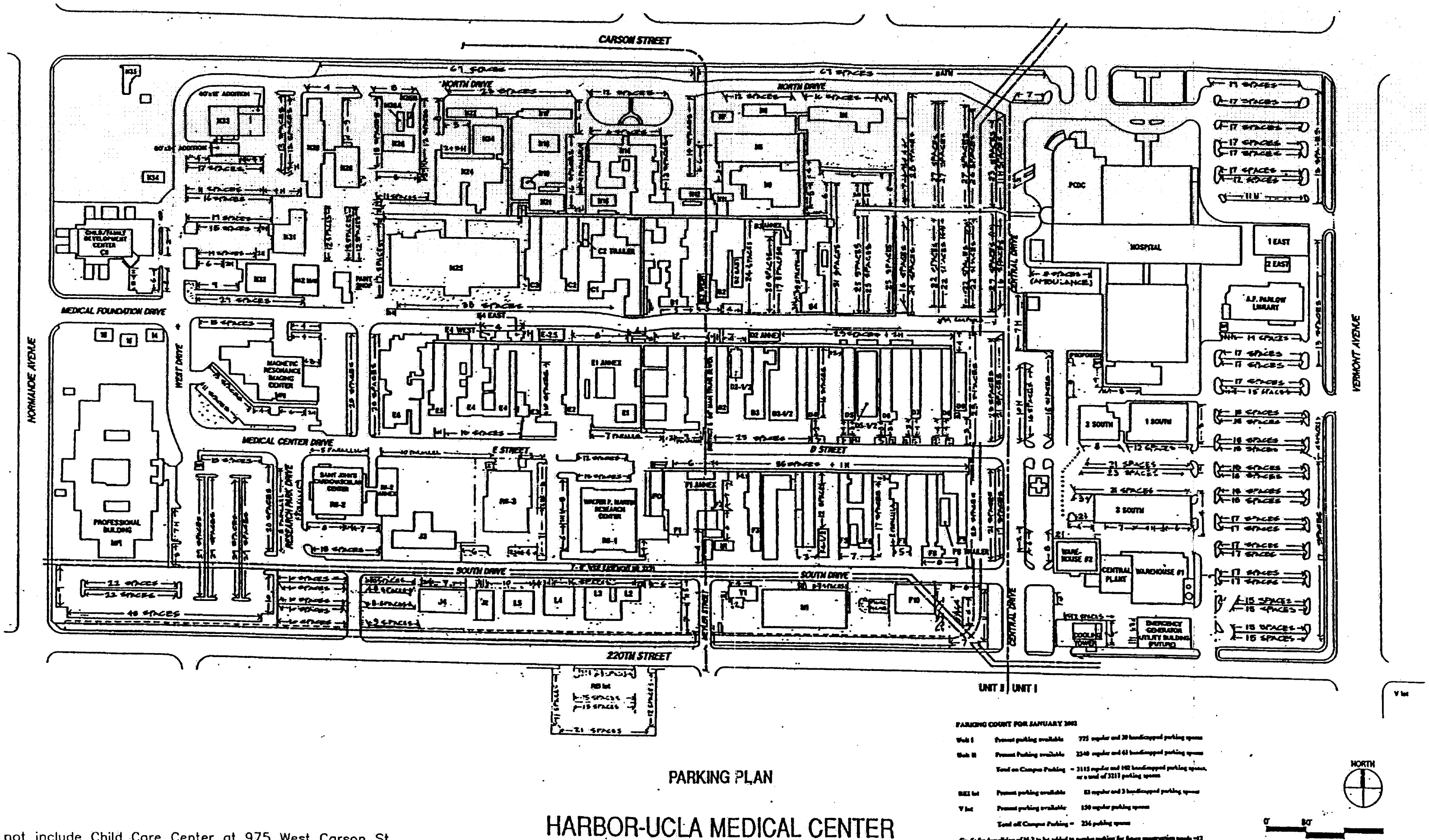
TABLE 10
CAMPUS PARKING INVENTORY

Type of Space	Number of Parking Spaces			
	Main Campus [a]	Child Care Ctr. (975 Carson) [b]	LA Bio Med Lot s/o 220th [a]	Total
Unrestricted	2,613	20	83	2,716
Handicapped	102	1	3	106
Employee Only	365			365
Other Restricted:				
Carpool	93			93
Emergency Room	12			12
Permit	9			9
Police Vehicles	4			4
Ambulance	8			8
Restricted (clinics)	5			5
20 Minute	4			4
Taxi	2			2
Other Restricted Subtotal	137			137
Total Medical Center Parking Supply	3,217	21	86	3,324

Notes:

a. Source: Los Angeles County Department of Health Services, January 2002; reconfirmed and updated by Department of Public Works in January 2005.

b. Source: Kaku Associates inventory, January 2002.

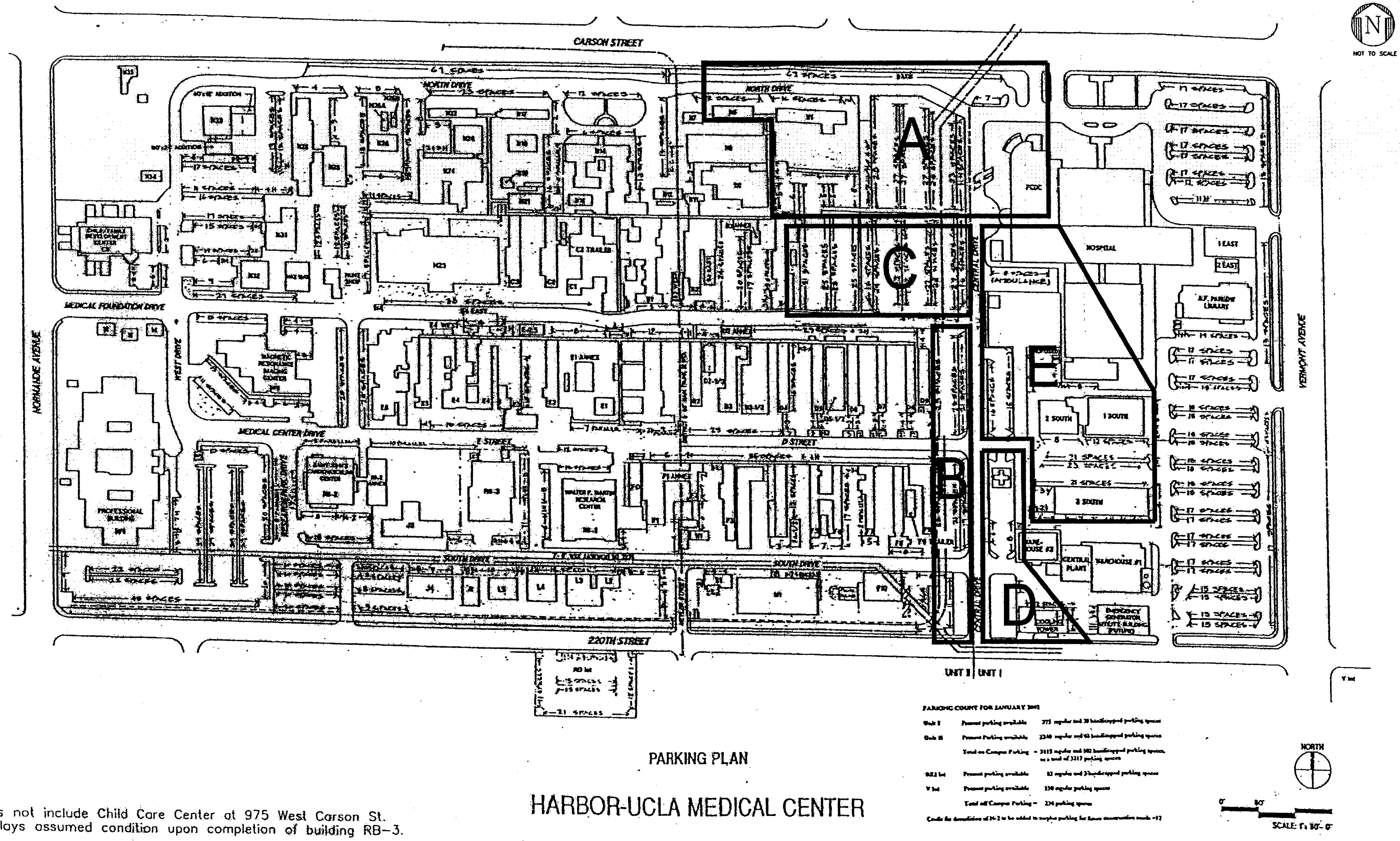


Notes:
1. Does not include Child Care Center at 975 West Carson St.
2. Displays assumed condition upon completion of building RB-3.

Source: County of Los Angeles, Harbor-UCLA Medical Center, Hospital Planning and Architecture; January 2002.

KAKU ASSOCIATES

FIGURE 11
CAMPUS PARKING INVENTORY



Notes:
1. Does not include Child Care Center at 975 West Carson St.
2. Displays assumed condition upon completion of building RB-3.

Source: County of Los Angeles, Harbor-UCLA Medical Center, Hospital Planning and Architecture; January 2002.

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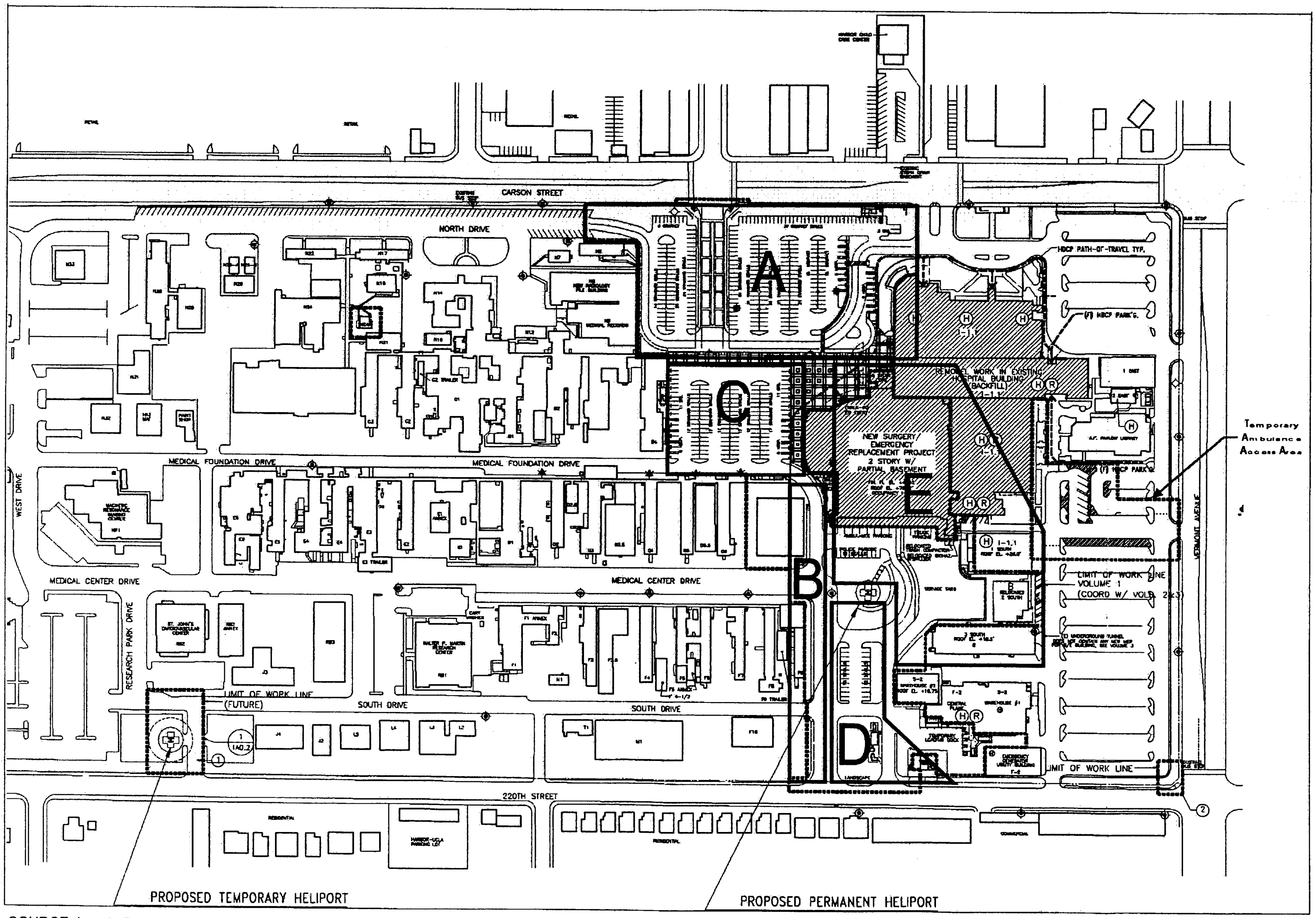
FIGURE 12
RELATION OF PARKING ZONES TO CAMPUS PARKING INVENTORY



SOURCE: Leo A. Daly, Planning and Architectural Engineering, April 2005.

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FIGURE 13
RELATION OF PARKING ZONES TO PROJECT SITE PLAN

TABLE 11
ESTIMATION OF FUTURE PARKING SUPPLY WITH PROJECT

Map ID [a]	General Location	Existing Spaces to be Removed [b]	Future Spaces With Project [c]
A	North parking lot	337	268
B	West side of Central Drive	174	0
C	Directly west of new Emergency Dept.	271	140
D	Helipad area	43	24
E	New Emergency Dept., ambulance, service yard	167	25 [d]
	Total	992	457
	Net Change		-535
	Total Campuswide Parking Supply	Existing 3,324 [e]	Future With Project 2,789

Notes:

a. See Figures 12 and 13 for locations of parking zones A through E.

b. Based on analysis of existing parking areas affected by proposed project site plan.

c. Estimated based on review of proposed project site plan.

d. Ambulance, police, and handicapped parking.

e. From Table 10. Includes existing spaces at Child Care Center (975 Carson) and in LA Bio Med lot south of 220th Street.

PARKING CODE ANALYSIS

The County of Los Angeles Code requires two parking spaces per bed for hospital uses, one space per 250 square feet for outpatient uses, and one space per 400 square feet for research uses. The County of Los Angeles Department of Health Services provided information regarding the distribution of campus building areas for each of these categories; this information was updated and reconfirmed by the County Department of Public Works in January 2005 and April 2005. Appendix D provides a detailed listing of buildings and floor areas by category, while Table 12 presents the parking code requirements.

As shown in Table 12, after completion of the project, it is estimated that there would be 553 hospital beds, approximately 242,327 square feet of outpatient uses, and approximately 253,612 square feet of research uses on the campus. This results in a total Los Angeles County code requirement for 2,709 parking spaces.

Although the project would result in an estimated net reduction of 535 spaces, the 2,789 future spaces provided would exceed the code requirement by 80 spaces.

TABLE 12
PARKING REQUIREMENTS AND ANALYSIS

Use	Code Parking Ratio [a]	Size [b]	Number of Spaces
Parking Requirement			
Hospital Beds	2 spaces / 1 bed	553 beds	1,106
Outpatient Use	1 space / 250 SF	242,327 SF	969
Research Use	1 space / 400 SF	253,612 SF	634
Total			2,709
Parking Supply			
On-Site Parking Supply [c]			2,789
Above Code/(Below Code)			80

Notes:

a. Source: Los Angeles County code.

b. Source: Space use distribution information provided by Los Angeles County Department of Health Services, 1/17/02; reconfirmed and updated by Department of Public Works in January 2005 and April 2005. See Appendix D for detailed tabulation.

c. Estimated future parking supply with project from Table 11.

VI. SUMMARY AND CONCLUSIONS

This study was undertaken to analyze the potential traffic impacts of the proposed Harbor-UCLA Medical Center Surgery/Emergency Replacement Project on the local street system. The following summarizes the results of this analysis:

- The proposed project consists of construction of a new Surgery/Emergency Building on the Harbor-UCLA campus to alleviate current overcrowding and to accommodate projected future increases in emergency visits and surgical procedures. Construction of the new building will also necessitate reconfiguration of the existing parking supply and internal access roads on the campus. A new signalized campus vehicular entrance would be constructed on Carson Street opposite Berendo Avenue.

- Seven intersections within the vicinity of the project site were analyzed in the study. Four of the seven intersections currently operate at LOS E or F during one or both of the a.m. and p.m. peak hours.

- Increased Emergency Department patient visits and Surgery Department outpatient procedures are projected to generate a net increase of about 250 daily trips, including approximately 28 trips during the weekday a.m. peak hour and about 28 trips during the weekday p.m. peak hour.

- Analysis of projected year 2010 ambient plus project and cumulative plus project conditions indicates that, using the significance criteria established by the County of Los Angeles Department of Public Works, the proposed project would not have a significant impact at any of the study intersections. No traffic mitigation measures would therefore be required.

- Assessment of the need for a traffic signal at the proposed Harbor-UCLA Medical Center driveway at Carson Street and Berendo Street indicated the projected future volumes with project traffic at this location would satisfy MUTCD traffic signal warrants.

- After completion of the proposed project, it is estimated that there would be a total of approximately 2,789 parking spaces campuswide (a reduction of about 535 spaces from existing conditions). The estimated future supply would exceed the Los Angeles County code requirement of 2,709 spaces by 80 spaces.

REFERENCES

County Code, County of Los Angeles.

Manual on Uniform Traffic Control Devices, Millennium Edition, U.S. Department of Transportation, Federal Highway Administration, 2001.

Traffic Impact Analysis Report Guidelines, County of Los Angeles, Department of Public Works, January 1997.

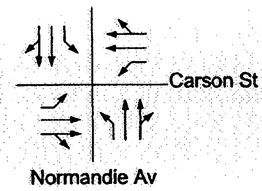
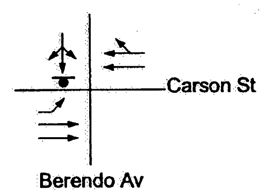
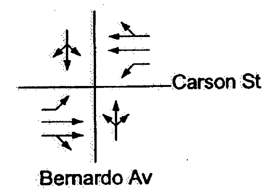
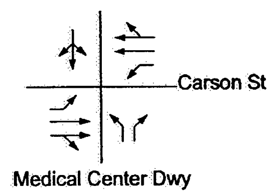
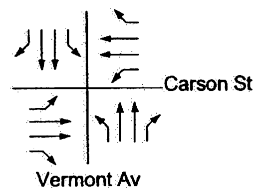
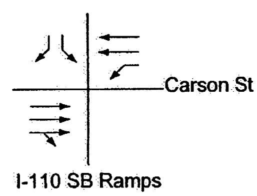
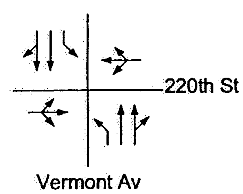
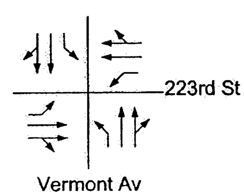
Traffic study for the Harbor-UCLA Medical Center Ambulatory Care/Surgery/Emergency Addition, Stevens/Garland Associates, 1994.

Trip Generation, 7th Edition, Institute of Transportation Engineers (ITE), 2003.

APPENDIX A

INTERSECTION CONFIGURATIONS

INTERSECTION LANE CONFIGURATION

	Existing Conditions	Future Conditions
1. Normandie Av & Carson St		Same As Existing
2. Berendo Av & Carson St		
3. Medical Center Dwy & Carson St		Same As Existing
4. Vermont Av & Carson St		Same As Existing
5. I-110 SB Ramps & Carson St		Same As Existing
6. Vermont Av & 220th St		Same As Existing
7. Vermont Av & 223rd St		Same As Existing

LEGEND

- Stop Controlled

KAKU ASSOCIATES

APPENDIX B

TRAFFIC COUNT SHEETS

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

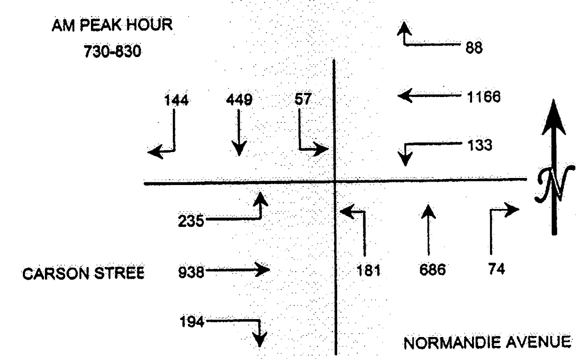
CLIENT: KAKU ASSOCIATES, INC.
PROJECT: HARBOR UCLA SURGERY / EMERGENCY REPLACEMENT
DATE: WEDNESDAY, JANUARY 12TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S NORMANDIE AVENUE
E/W CARSON STREET

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	19	64	6	24	259	16	9	129	22	31	144	41	764
715-730	29	111	10	18	232	22	7	133	20	44	229	44	899
730-745	49	136	19	23	312	38	18	178	46	49	250	49	1167
745-800	28	92	12	23	308	26	16	212	53	52	260	52	1134
800-815	30	123	11	21	280	44	17	155	46	56	212	58	1053
815-830	37	98	15	21	266	25	23	141	36	37	216	76	991
830-845	40	85	10	10	242	29	17	125	25	42	193	39	857
845-900	35	98	12	20	255	31	9	109	24	33	209	47	882

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	125	403	47	88	1111	102	50	652	141	176	883	186	3964
715-815	136	462	52	85	1132	130	58	678	165	201	951	203	4253
730-830	144	449	57	88	1166	133	74	686	181	194	938	235	4345
745-845	135	398	48	75	1096	124	73	633	160	187	881	225	4035
800-900	142	404	48	72	1043	129	66	530	131	168	830	220	3783

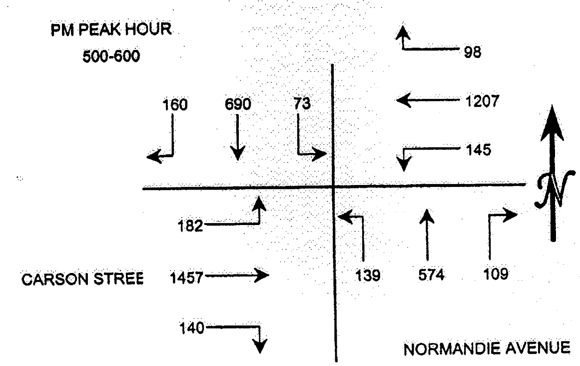


15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	33	94	9	15	230	40	33	156	41	25	282	51	1009
415-430	29	133	9	29	265	26	32	127	33	28	298	42	1051
430-445	37	111	18	20	233	32	38	173	43	31	337	37	1110
445-500	34	160	24	37	310	32	25	122	43	25	315	48	1175
500-515	22	141	18	23	283	41	27	177	38	49	375	48	1242
515-530	49	194	17	31	313	38	31	130	26	28	358	50	1265
530-545	36	163	15	20	296	31	32	141	50	28	393	46	1251
545-600	53	192	23	24	315	35	19	126	25	35	331	38	1216

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	133	498	60	101	1038	130	128	578	160	109	1232	178	4345
415-515	122	545	69	109	1091	131	122	599	157	133	1325	175	4578
430-530	142	606	77	111	1139	143	121	602	150	133	1385	183	4792
445-545	141	658	74	111	1202	142	115	570	157	130	1441	192	4933
500-600	160	690	73	98	1207	145	109	574	139	140	1457	182	4974



WILTEC

Phone: (626) 564-1944   Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

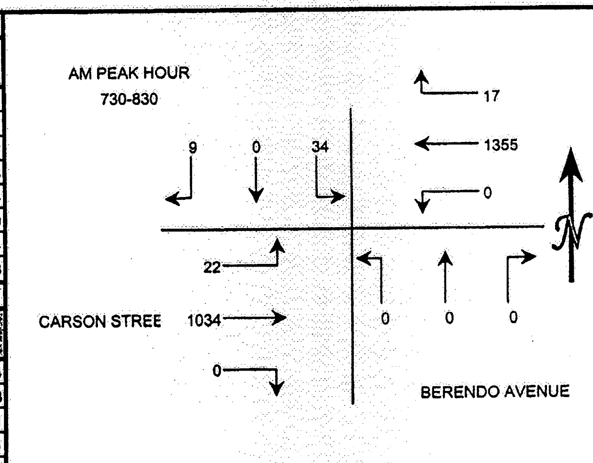
CLIENT: KAKU ASSOCIATES, INC.
PROJECT: HARBOR UCLA SURGERY / EMERGENCY REPLACEMENT
DATE: WEDNESDAY, JANUARY 12TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S BERENDO AVENUE
E/W CARSON STREET

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	1	0	4	5	278	0	0	0	0	0	175	7	470
715-730	4	0	10	6	275	0	0	0	0	0	206	6	507
730-745	1	0	10	5	340	0	0	0	0	0	292	6	654
745-800	5	0	15	6	361	0	0	0	0	0	250	6	643
800-815	3	0	4	6	339	0	0	0	0	0	263	9	624
815-830	0	0	5	0	315	0	0	0	0	0	229	1	550
830-845	4	0	11	4	274	0	0	0	0	0	224	7	524
845-900	4	0	5	5	298	0	0	0	0	0	218	3	533

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	11	0	39	22	1254	0	0	0	0	0	923	25	2274
715-815	13	0	39	23	1315	0	0	0	0	0	1011	27	2428
730-830	9	0	34	17	1355	0	0	0	0	0	1034	22	2471
745-845	12	0	35	16	1289	0	0	0	0	0	966	23	2341
800-900	11	0	25	15	1226	0	0	0	0	0	934	20	2231

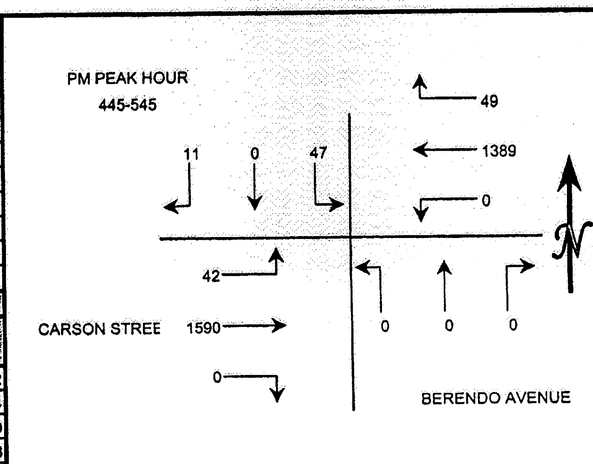


15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	2	0	9	10	299	0	0	0	0	0	325	8	653
415-430	3	0	12	12	285	0	0	0	0	0	309	6	627
430-445	3	0	4	11	306	0	0	0	0	0	361	7	692
445-500	4	0	16	16	361	0	0	0	0	0	415	8	820
500-515	2	0	11	8	336	0	0	0	0	0	360	8	725
515-530	1	0	12	7	332	0	0	0	0	0	410	20	782
530-545	4	0	8	18	360	0	0	0	0	0	405	6	801
545-600	1	0	9	12	342	0	0	0	0	0	396	10	770

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	12	0	41	49	1251	0	0	0	0	0	1410	29	2792
415-515	12	0	43	47	1288	0	0	0	0	0	1445	29	2864
430-530	10	0	43	42	1335	0	0	0	0	0	1546	43	3019
445-545	11	0	47	49	1389	0	0	0	0	0	1590	42	3128
500-600	8	0	40	45	1370	0	0	0	0	0	1571	44	3078



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

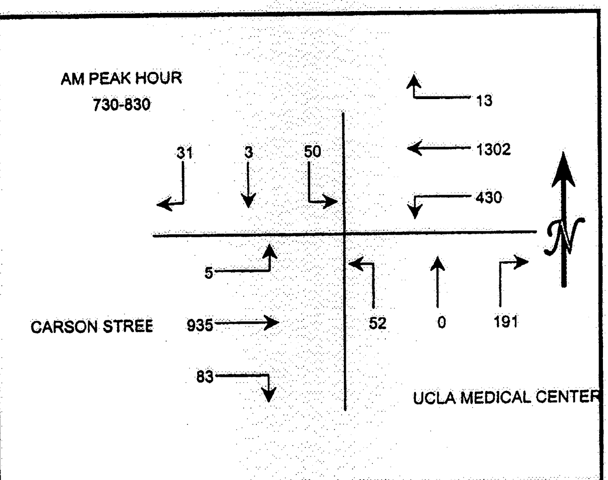
CLIENT:		KAKU ASSOCIATES, INC.
PROJECT:		HARBOR UCLA SURGERY / EMERGENCY REPLACEMENT
DATE:		WEDNESDAY, JANUARY 12TH, 2005
PERIODS:		7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION:	N/S	UCLA MEDICAL CENTER MAIN ENTRANCE
	E/W	CARSON STREET

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	3	1	6	1	273	122	40	0	12	21	159	1	639
715-730	5	1	9	1	261	110	38	0	7	12	204	0	648
730-745	7	0	13	0	321	92	66	0	10	19	252	1	781
745-800	9	0	13	3	360	103	53	0	17	24	236	2	820
800-815	7	2	12	7	332	126	38	0	12	21	246	0	803
815-830	8	1	12	3	289	109	34	0	13	19	201	2	691
830-845	1	0	9	3	273	111	32	0	5	19	216	2	671
845-900	5	0	8	1	294	107	39	0	16	12	201	3	686

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	24	2	41	5	1215	427	197	0	46	78	851	4	2888
715-815	28	3	47	11	1274	431	195	0	46	76	938	3	3052
730-830	31	3	50	13	1302	430	191	0	52	83	935	5	3095
745-845	25	3	46	16	1254	449	157	0	47	83	899	6	2985
800-900	21	3	41	14	1188	453	143	0	46	71	864	7	2851

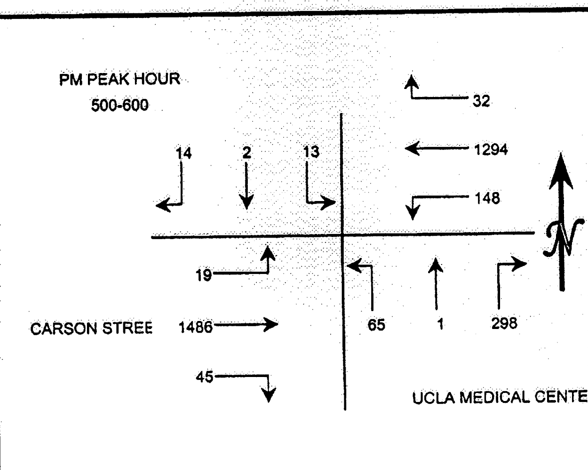


15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	5	1	1	6	261	60	99	0	15	14	298	5	765
415-430	0	0	1	4	297	58	87	0	19	7	324	6	803
430-445	2	1	3	8	275	33	92	1	22	13	327	2	779
445-500	6	0	4	7	301	36	72	0	17	13	394	2	852
500-515	5	1	2	9	306	32	101	0	22	10	350	5	843
515-530	1	0	2	7	316	32	61	0	10	15	378	5	827
530-545	2	1	5	12	335	38	71	1	18	12	389	3	887
545-600	6	0	4	4	337	46	65	0	15	8	369	6	860

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	13	2	9	25	1134	187	350	1	73	47	1343	15	3199
415-515	13	2	10	28	1179	159	352	1	80	43	1395	15	3277
430-530	14	2	11	31	1198	133	326	1	71	51	1449	14	3301
445-545	14	2	13	35	1258	138	305	1	67	50	1511	15	3409
500-600	14	2	13	32	1294	148	298	1	65	45	1486	19	3417



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

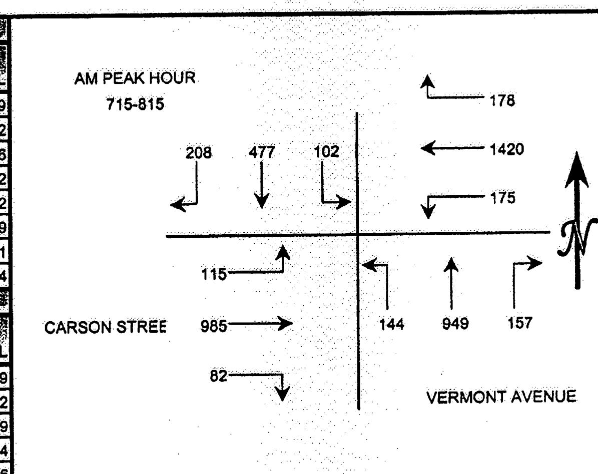
CLIENT: KAKU ASSOCIATES, INC.
PROJECT: HARBOR UCLA SURGERY / EMERGENCY REPLACEMENT
DATE: WEDNESDAY, JANUARY 12TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S VERMONT AVENUE
E/W CARSON STREET

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	43	86	20	32	335	63	22	197	21	8	157	25	1009
715-730	41	114	28	24	333	51	33	193	28	12	220	25	1102
730-745	51	151	37	54	354	44	42	233	40	41	271	28	1346
745-800	60	117	18	60	361	50	45	254	33	14	248	32	1292
800-815	56	95	19	40	372	30	37	269	43	15	246	30	1252
815-830	47	79	22	26	323	54	21	188	31	14	217	27	1049
830-845	45	90	28	23	345	51	21	141	30	15	196	26	1011
845-900	35	67	21	33	310	42	23	104	32	15	207	25	914

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	195	468	103	170	1383	208	142	877	122	75	896	110	4749
715-815	208	477	102	178	1420	175	157	949	144	82	985	115	4992
730-830	214	442	96	180	1410	178	145	944	147	84	982	117	4939
745-845	208	381	87	149	1401	185	124	852	137	58	907	115	4604
800-900	183	331	90	122	1350	177	102	702	136	59	866	108	4226

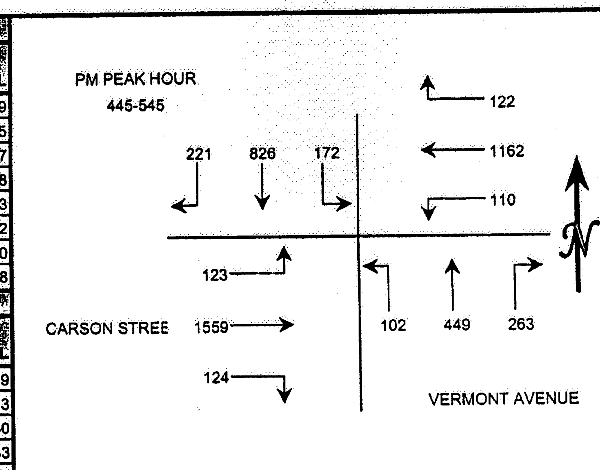


15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	45	139	43	38	287	34	84	131	23	25	340	30	1219
415-430	46	155	40	31	288	27	53	108	23	25	346	43	1185
430-445	36	138	34	26	247	20	69	106	22	22	358	39	1117
445-500	52	157	39	28	293	25	61	100	23	37	413	30	1258
500-515	47	198	36	24	279	31	79	124	26	35	385	39	1303
515-530	49	234	41	36	274	20	61	109	21	20	364	23	1252
530-545	73	237	56	34	316	34	62	116	32	32	397	31	1420
545-600	47	169	38	35	245	23	43	86	26	30	365	31	1138

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	179	589	156	123	1115	106	267	445	91	109	1457	142	4779
415-515	181	648	149	109	1107	103	262	438	94	119	1502	151	4863
430-530	184	727	150	114	1093	96	270	439	92	114	1520	131	4930
445-545	221	826	172	122	1162	110	263	449	102	124	1559	123	5233
500-600	216	838	171	129	1114	108	245	435	105	117	1511	124	5113



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

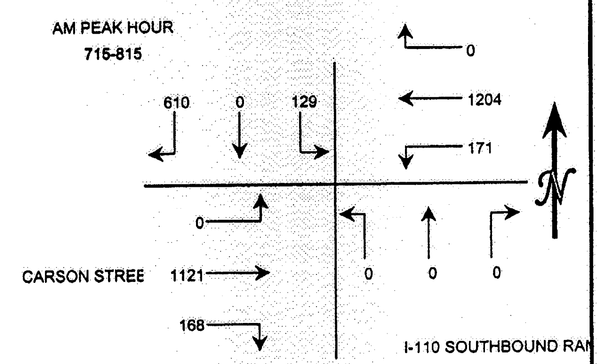
CLIENT: KAKU ASSOCIATES, INC.
PROJECT: HARBOR UCLA SURGERY / EMERGENCY REPLACEMENT
DATE: WEDNESDAY, JANUARY 12TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S I-110 SOUTHBOUND RAMPS
E/W CARSON STREET

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	196	0	33	0	213	21	0	0	0	21	175	0	659
715-730	157	0	30	0	263	41	0	0	0	48	234	0	773
730-745	152	0	36	0	302	44	0	0	0	51	293	0	878
745-800	146	0	31	0	339	40	0	0	0	35	312	0	903
800-815	155	0	32	0	300	46	0	0	0	34	282	0	849
815-830	169	0	32	0	254	27	0	0	0	27	217	0	726
830-845	180	0	39	0	224	21	0	0	0	20	226	0	710
845-900	184	0	46	0	226	24	0	0	0	31	227	0	738

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	651	0	130	0	1117	146	0	0	0	155	1014	0	3213
715-815	610	0	129	0	1204	171	0	0	0	168	1121	0	3403
730-830	622	0	131	0	1195	157	0	0	0	147	1104	0	3356
745-845	650	0	134	0	1117	134	0	0	0	116	1037	0	3188
800-900	688	0	149	0	1004	118	0	0	0	112	952	0	3023

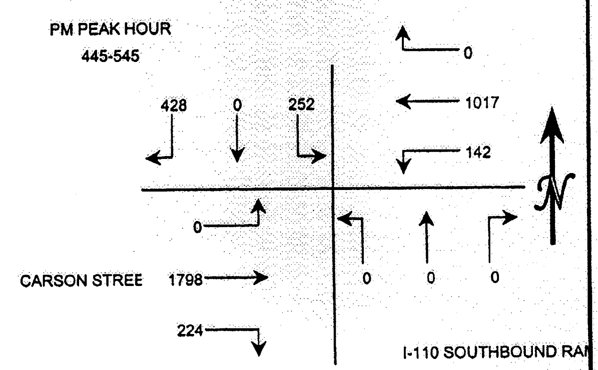


15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	106	0	59	0	239	41	0	0	0	48	443	0	936
415-430	108	0	65	0	230	37	0	0	0	40	426	0	906
430-445	115	0	67	0	233	38	0	0	0	55	431	0	939
445-500	112	0	56	0	237	30	0	0	0	53	468	0	956
500-515	100	0	62	0	247	42	0	0	0	40	420	0	911
515-530	106	0	52	0	248	38	0	0	0	73	462	0	979
530-545	110	0	82	0	285	32	0	0	0	58	448	0	1015
545-600	107	0	56	0	244	49	0	0	0	45	417	0	918

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	441	0	247	0	939	146	0	0	0	196	1768	0	3737
415-515	435	0	250	0	947	147	0	0	0	188	1745	0	3712
430-530	433	0	237	0	965	148	0	0	0	221	1781	0	3785
445-545	428	0	252	0	1017	142	0	0	0	224	1798	0	3861
500-600	423	0	252	0	1024	161	0	0	0	216	1747	0	3823



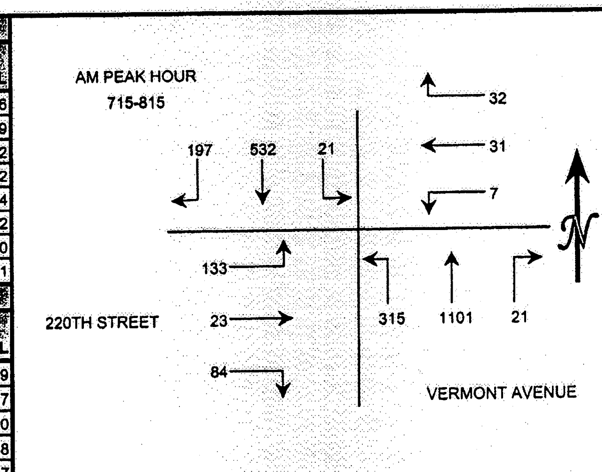
WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

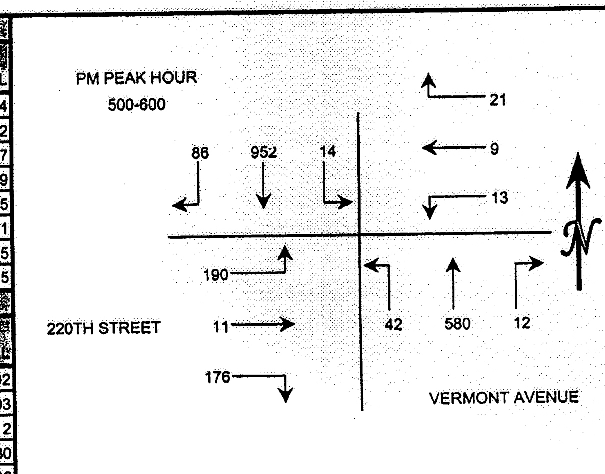
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC.
PROJECT: HARBOR UCLA SURGERY / EMERGENCY REPLACEMENT
DATE: WEDNESDAY, JANUARY 12TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S VERMONT AVENUE
E/W 220TH STREET

15 MIN COUNTS	7:00 AM TO 9:00 AM												
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	53	85	4	6	4	2	3	212	57	10	4	16	456
715-730	51	123	5	9	3	4	7	226	81	18	3	29	559
730-745	55	158	5	8	8	1	4	270	56	20	7	40	632
745-800	46	127	7	10	10	1	7	335	88	28	9	34	702
800-815	45	124	4	5	10	1	3	270	90	18	4	30	604
815-830	62	84	3	6	3	2	9	216	62	14	5	16	482
830-845	47	103	0	3	0	0	2	163	52	12	2	16	400
845-900	30	107	2	1	4	2	3	154	30	9	2	17	361
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	205	493	21	33	25	8	21	1043	282	76	23	119	2349
715-815	197	532	21	32	31	7	21	1101	315	84	23	133	2497
730-830	208	493	19	29	31	5	23	1091	296	80	25	120	2420
745-845	200	438	14	24	23	4	21	984	292	72	20	96	2188
800-900	184	418	9	15	17	5	17	803	234	53	13	79	1847



15 MIN COUNTS	4:00 PM TO 6:00 PM												
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
400-415	15	178	9	4	6	4	4	136	18	62	2	76	514
415-430	19	187	3	4	5	2	3	127	13	50	4	55	472
430-445	22	185	4	12	2	5	4	122	19	61	4	77	517
445-500	18	200	3	5	1	3	2	147	13	55	1	41	489
500-515	23	216	4	2	2	4	2	138	5	65	1	63	525
515-530	20	227	3	7	2	3	1	129	7	38	4	40	481
530-545	20	274	6	7	2	2	3	163	15	38	4	51	585
545-600	23	235	1	5	3	4	6	150	15	35	2	36	515
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
400-500	74	750	19	25	14	14	13	532	63	228	11	249	1992
415-515	82	788	14	23	10	14	11	534	50	231	10	236	2003
430-530	83	828	14	26	7	15	9	536	44	219	10	221	2012
445-545	81	917	16	21	7	12	8	577	40	196	10	195	2080
500-600	86	952	14	21	9	13	12	580	42	176	11	190	2106



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

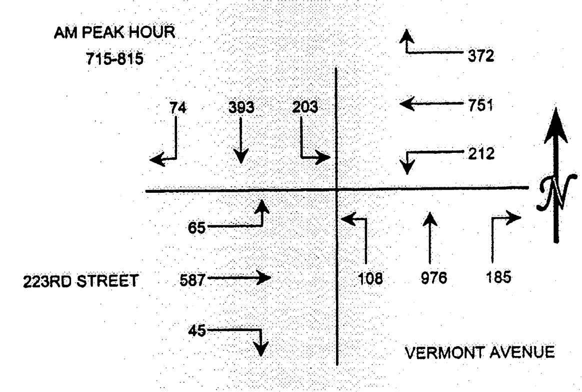
CLIENT: KAKU ASSOCIATES, INC.
PROJECT: HARBOR UCLA SURGERY / EMERGENCY REPLACEMENT
DATE: WEDNESDAY, JANUARY 12TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S VERMONT AVENUE
E/W 223RD STREET

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	8	69	25	75	138	30	34	198	21	5	120	11	734
715-730	16	94	53	78	151	40	54	229	25	6	132	14	892
730-745	15	108	70	92	205	69	58	226	22	8	184	15	1072
745-800	23	96	43	110	190	52	39	289	39	11	154	15	1061
800-815	20	95	37	92	205	51	34	232	22	20	117	21	946
815-830	13	76	23	62	193	45	20	194	25	11	93	11	766
830-845	10	61	11	47	129	36	22	167	15	10	109	13	630
845-900	20	84	13	40	133	33	23	120	9	11	92	20	598

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	62	367	191	355	684	191	185	942	107	30	590	55	3759
715-815	74	393	203	372	751	212	185	976	108	45	587	65	3971
730-830	71	375	173	356	793	217	151	941	108	50	548	62	3845
745-845	66	328	114	311	717	184	115	882	101	52	473	60	3403
800-900	63	316	84	241	660	165	99	713	71	52	411	65	2940

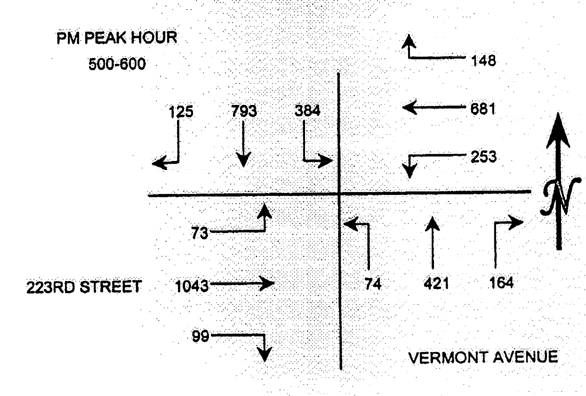


15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	26	139	89	31	146	41	52	112	14	22	211	17	900
415-430	15	137	82	32	136	62	44	100	13	20	211	11	863
430-445	19	160	102	30	164	58	52	100	19	13	249	13	979
445-500	28	167	92	42	160	67	35	113	10	26	221	15	976
500-515	36	201	114	24	178	64	46	102	12	27	257	17	1078
515-530	26	209	95	31	187	63	41	101	18	24	279	16	1090
530-545	24	203	99	44	150	73	42	121	26	27	278	20	1107
545-600	39	180	76	49	166	53	35	97	18	21	229	20	983

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	88	603	365	135	606	228	183	425	56	81	892	56	3718
415-515	98	665	390	128	638	251	177	415	54	86	938	56	3896
430-530	109	737	403	127	689	252	174	416	59	90	1006	61	4123
445-545	114	780	400	141	675	287	164	437	66	104	1035	68	4251
500-600	125	793	384	148	681	253	164	421	74	99	1043	73	4258



APPENDIX C

INTERSECTION LEVEL OF SERVICE WORKSHEETS

Existing Conditions

Printed: 2/14/2005 1468.01.ICU.EX.xls
Revised: 2/4/00

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 1. Normandie Avenue & Carson Street
Description: EXISTING CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane: 1600 vph
Left Lane: 1600 vph
Double Lt Penalty: 20 %
ITS: 0 %

N-S Split Phase : N
E-W Split Phase : N
Lost Time (% of cycle) : 10
V/C Round Off (decs.) : 3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	144	0	0.000	N-S(1):	0.274
	TH	2.00	449	3,200	0.185 *	N-S(2):	0.298 *
	LT	1.00	57	1,600	0.036	E-W(1):	0.437
Westbound	RT	0.00	88	0	0.000	E-W(2):	0.539 *
	TH	2.00	1,166	3,200	0.392 *		
	LT	1.00	133	1,600	0.083	V/C:	0.837
Northbound	RT	0.00	74	0	0.000	Lost Time:	0.100
	TH	2.00	686	3,200	0.238		
	LT	1.00	181	1,600	0.113 *		
Eastbound	RT	0.00	194	0	0.000	ICU:	0.937
	TH	2.00	938	3,200	0.354		
	LT	1.00	235	1,600	0.147 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	160	0	0.000	N-S(1):	0.259
	TH	2.00	690	3,200	0.266 *	N-S(2):	0.353 *
	LT	1.00	73	1,600	0.046	E-W(1):	0.590 *
Westbound	RT	0.00	98	0	0.000	E-W(2):	0.522
	TH	2.00	1,207	3,200	0.408		
	LT	1.00	145	1,600	0.091 *	V/C:	0.943
Northbound	RT	0.00	109	0	0.000	Lost Time:	0.100
	TH	2.00	574	3,200	0.213		
	LT	1.00	139	1,600	0.087 *		
Eastbound	RT	0.00	140	0	0.000	ICU:	1.043
	TH	2.00	1,457	3,200	0.499 *		
	LT	1.00	182	1,600	0.114	LOS:	F

* - Denotes critical movement

```
---------------------------------------------------------------------------------
---------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*********************************************************************************
Intersection #2
*********************************************************************************
Average Delay (sec/veh):      2.1    Worst Case Level Of Service:       F[115.3]
*********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   1  0  2  0  0   0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    34    0     9    22 1034     0     0 1355    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    34    0     9    22 1034     0     0 1355    17
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    34    0     9    22 1034     0     0 1355    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0    34    0     9    22 1034     0     0 1355    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8 xxxx   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1925 xxxx   686  1372 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    60 xxxx   395   507 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    58 xxxx   395   507 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.59 xxxx  0.02  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Queue:      xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  12.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx   71 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  115 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            115.3            xxxxxx           xxxxxx
ApproachLOS:        *                F                *                *
```

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #2
********************************************************************************
Average Delay (sec/veh):       9.4   Worst Case Level Of Service:       F[495.6]
********************************************************************************
Approach:     North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:       0  0  0  0  0   0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    47    0    11    42 1590     0     0 1389    49
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    47    0    11    42 1590     0     0 1389    49
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    47    0    11    42 1590     0     0 1389    49
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0    47    0    11    42 1590     0     0 1389    49
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8 xxxx   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2293 xxxx   719  1438 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    34 xxxx   375   478 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    32 xxxx   375   478 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.49 xxxx  0.03  0.09 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Queue:      xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx xxxxx xxxxx xxxx xxxxx
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  13.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:    LT - LTR - RT   LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx   38 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  6.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  496 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            495.6            xxxxxx           xxxxxx
ApproachLOS:        *                F                *                *
```

Printed: 2/14/2005
Revised: 2/4/00

1468.01.ICU.EX.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 2. Berendo Avenue & Carson Street
Description: EXISTING CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	9	0	0.000	N-S(1):	0.021
	TH	1.00	0	1,600	0.027 *	N-S(2):	0.027 *
	LT	0.00	34	1,600	0.021	E-W(1):	0.323
Westbound	RT	0.00	17	0	0.000	E-W(2):	0.443 *
	TH	2.00	1,355	3,200	0.429 *		
	LT	0.00	0	0	0.000	V/C:	0.470
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.570
	TH	2.00	1,034	3,200	0.323		
	LT	1.00	22	1,600	0.014 *	LOS:	A

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	11	0	0.000	N-S(1):	0.029
	TH	1.00	0	1,600	0.036 *	N-S(2):	0.036 *
	LT	0.00	47	1,600	0.029	E-W(1):	0.497 *
Westbound	RT	0.00	49	0	0.000	E-W(2):	0.475
	TH	2.00	1,389	3,200	0.449		
	LT	0.00	0	0	0.000 *	V/C:	0.533
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.633
	TH	2.00	1,590	3,200	0.497 *		
	LT	1.00	42	1,600	0.026	LOS:	B

* - Denotes critical movement

Printed: 2/14/2005
Revised: 2/4/00

1468.01.ICU.EX.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 3. UCLA Medical Ctr. Main Entrance & Carson Street
Description: EXISTING CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	31	0	0.000	N-S(1):	0.031
	TH	1.00	3	1,600	0.053 *	N-S(2):	0.086 *
	LT	0.00	50	1,600	0.031	E-W(1):	0.587 *
Westbound	RT	0.00	13	0	0.000	E-W(2):	0.414
	TH	2.00	1,302	3,200	0.411		
	LT	1.00	430	1,600	0.269 *	V/C:	0.673
Northbound	RT	1.00	191	1,600	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	52	1,600	0.033 *		
Eastbound	RT	0.00	83	0	0.000	ICU:	0.773
	TH	2.00	935	3,200	0.318 *		
	LT	1.00	5	1,600	0.003	LOS:	C

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	14	0	0.000	N-S(1):	0.102 *
	TH	1.00	2	1,600	0.018	N-S(2):	0.059
	LT	0.00	13	1,600	0.008 *	E-W(1):	0.571 *
Westbound	RT	0.00	32	0	0.000	E-W(2):	0.426
	TH	2.00	1,294	3,200	0.414		
	LT	1.00	148	1,600	0.093 *	V/C:	0.673
Northbound	RT	1.00	298	1,600	0.094 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	65	1,600	0.041		
Eastbound	RT	0.00	45	0	0.000	ICU:	0.773
	TH	2.00	1,486	3,200	0.478 *		
	LT	1.00	19	1,600	0.012	LOS:	C

* - Denotes critical movement

Printed: 2/14/2005
Revised: 2/4/00

1468.01.ICU.EX.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 4. Vermont Avenue & Carson Street
Description: EXISTING CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	208	1,600	0.058	N-S(1):	0.361 *
	TH	2.00	477	3,200	0.149	N-S(2):	0.239
	LT	1.00	102	1,600	0.064 *	E-W(1):	0.417
Westbound	RT	1.00	178	1,600	0.048	E-W(2):	0.516 *
	TH	2.00	1,420	3,200	0.444 *		
	LT	1.00	175	1,600	0.109	V/C:	0.877
Northbound	RT	1.00	157	1,600	0.000	Lost Time:	0.100
	TH	2.00	949	3,200	0.297 *		
	LT	1.00	144	1,600	0.090		
Eastbound	RT	1.00	82	1,600	0.000	ICU:	0.977
	TH	2.00	985	3,200	0.308		
	LT	1.00	115	1,600	0.072 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	221	1,600	0.061	N-S(1):	0.248
	TH	2.00	826	3,200	0.258 *	N-S(2):	0.322 *
	LT	1.00	172	1,600	0.108	E-W(1):	0.556 *
Westbound	RT	1.00	122	1,600	0.000	E-W(2):	0.440
	TH	2.00	1,162	3,200	0.363		
	LT	1.00	110	1,600	0.069 *	V/C:	0.878
Northbound	RT	1.00	263	1,600	0.096	Lost Time:	0.100
	TH	2.00	449	3,200	0.140		
	LT	1.00	102	1,600	0.064 *		
Eastbound	RT	1.00	124	1,600	0.014	ICU:	0.978
	TH	2.00	1,559	3,200	0.487 *		
	LT	1.00	123	1,600	0.077	LOS:	E

* - Denotes critical movement

Printed: 2/14/2005
Revised: 2/4/00

1468.01.ICU.EX.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 5. I-110 Southbound Ramps & Carson Street
Description: EXISTING CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	610	1,600	0.381 *	N-S(1):	0.081
	TH	0.00	0	0	0.000	N-S(2):	0.381 *
	LT	1.00	129	1,600	0.081	E-W(1):	0.376 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.376 *
	TH	2.00	1,204	3,200	0.376 *		
	LT	1.00	171	1,600	0.107 *	V/C:	0.757
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	168	0	0.000	ICU:	0.857
	TH	3.00	1,121	4,800	0.269 *		
	LT	0.00	0	0	0.000 *	LOS:	D

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	428	1,600	0.268 *	N-S(1):	0.158
	TH	0.00	0	0	0.000	N-S(2):	0.268 *
	LT	1.00	252	1,600	0.158	E-W(1):	0.510 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.318
	TH	2.00	1,017	3,200	0.318		
	LT	1.00	142	1,600	0.089 *	V/C:	0.778
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	224	0	0.000	ICU:	0.878
	TH	3.00	1,798	4,800	0.421 *		
	LT	0.00	0	0	0.000	LOS:	D

* - Denotes critical movement

Printed: 2/14/2005 1468.01.ICU.EX.xls
Revised: 2/4/00

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 6. Vermont Avenue & 220th Street
Description: EXISTING CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	197	0	0.000	N-S(1):	0.364
	TH	2.00	532	3,200	0.228 *	N-S(2):	0.425 *
	LT	1.00	21	1,600	0.013	E-W(1):	0.154 *
Westbound	RT	0.00	32	0	0.000	E-W(2):	0.127
	TH	1.00	31	1,600	0.044		
	LT	0.00	7	1,600	0.004 *	V/C:	0.579
Northbound	RT	0.00	21	0	0.000	Lost Time:	0.100
	TH	2.00	1,101	3,200	0.351		
	LT	1.00	315	1,600	0.197 *		
Eastbound	RT	0.00	84	0	0.000	ICU:	0.679
	TH	1.00	23	1,600	0.150 *		
	LT	0.00	133	1,600	0.083	LOS:	B

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	86	0	0.000	N-S(1):	0.194
	TH	2.00	952	3,200	0.324 *	N-S(2):	0.350 *
	LT	1.00	14	1,600	0.009	E-W(1):	0.244 *
Westbound	RT	0.00	21	0	0.000	E-W(2):	0.146
	TH	1.00	9	1,600	0.027		
	LT	0.00	13	1,600	0.008 *	V/C:	0.594
Northbound	RT	0.00	12	0	0.000	Lost Time:	0.100
	TH	2.00	580	3,200	0.185		
	LT	1.00	42	1,600	0.026 *		
Eastbound	RT	0.00	176	0	0.000	ICU:	0.694
	TH	1.00	11	1,600	0.236 *		
	LT	0.00	190	1,600	0.119	LOS:	B

* - Denotes critical movement

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1468.01.ICU.EX.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 7. Vermont Avenue & 223rd Street
Description: EXISTING CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane: 1600 vph
Left Lane: 1600 vph
Double Lt Penalty: 20 %
ITS: 0 %

N-S Split Phase : N
E-W Split Phase : N
Lost Time (% of cycle) : 10
V/C Round Off (decs.) : 3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	74	0	0.000	N-S(1):	0.490 *
	TH	2.00	393	3,200	0.146	N-S(2):	0.214
	LT	1.00	203	1,600	0.127 *	E-W(1):	0.331
Westbound	RT	0.00	372	0	0.000	E-W(2):	0.392 *
	TH	2.00	751	3,200	0.351 *		
	LT	1.00	212	1,600	0.133	V/C:	0.882
Northbound	RT	0.00	185	0	0.000	Lost Time:	0.100
	TH	2.00	976	3,200	0.363 *		
	LT	1.00	108	1,600	0.068		
Eastbound	RT	0.00	45	0	0.000	ICU:	0.982
	TH	2.00	587	3,200	0.198		
	LT	1.00	65	1,600	0.041 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	125	0	0.000	N-S(1):	0.423 *
	TH	2.00	793	3,200	0.287	N-S(2):	0.333
	LT	1.00	384	1,600	0.240 *	E-W(1):	0.515 *
Westbound	RT	0.00	148	0	0.000	E-W(2):	0.305
	TH	2.00	681	3,200	0.259		
	LT	1.00	253	1,600	0.158 *	V/C:	0.938
Northbound	RT	0.00	164	0	0.000	Lost Time:	0.100
	TH	2.00	421	3,200	0.183 *		
	LT	1.00	74	1,600	0.046		
Eastbound	RT	0.00	99	0	0.000	ICU:	1.038
	TH	2.00	1,043	3,200	0.357 *		
	LT	1.00	73	1,600	0.046	LOS:	F

* - Denotes critical movement

Existing Plus Ambient Conditions

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1468.01.ICU.EX+AMB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 1. Normandie Avenue & Carson Street
Description: EXISTING + AMBIENT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	151	0	0.000	N-S(1):	0.287
	TH	2.00	471	3,200	0.194 *	N-S(2):	0.313 *
	LT	1.00	60	1,600	0.038	E-W(1):	0.460
Westbound	RT	0.00	92	0	0.000	E-W(2):	0.565 *
	TH	2.00	1,224	3,200	0.411 *		
	LT	1.00	140	1,600	0.088	V/C:	0.878
Northbound	RT	0.00	78	0	0.000	Lost Time:	0.100
	TH	2.00	720	3,200	0.249		
	LT	1.00	190	1,600	0.119 *		
Eastbound	RT	0.00	204	0	0.000	ICU:	0.978
	TH	2.00	985	3,200	0.372		
	LT	1.00	247	1,600	0.154 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	168	0	0.000	N-S(1):	0.272
	TH	2.00	725	3,200	0.279 *	N-S(2):	0.370 *
	LT	1.00	77	1,600	0.048	E-W(1):	0.619 *
Westbound	RT	0.00	103	0	0.000	E-W(2):	0.547
	TH	2.00	1,267	3,200	0.428		
	LT	1.00	152	1,600	0.095 *	V/C:	0.989
Northbound	RT	0.00	114	0	0.000	Lost Time:	0.100
	TH	2.00	603	3,200	0.224		
	LT	1.00	146	1,600	0.091 *		
Eastbound	RT	0.00	147	0	0.000	ICU:	1.089
	TH	2.00	1,530	3,200	0.524 *		
	LT	1.00	191	1,600	0.119	LOS:	F

* - Denotes critical movement

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: F[160.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			1 0 2 0 0			0 0 1 1 0		
Volume Module:												
Base Vol:	0	0	0	36	0	9	23	1086	0	0	1423	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	36	0	9	23	1086	0	0	1423	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	36	0	9	23	1086	0	0	1423	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	36	0	9	23	1086	0	0	1423	18
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	2021	xxxx	721	1441	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	52	xxxx	375	477	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	50	xxxx	375	477	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.72	xxxx	0.02	0.05	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	12.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	60	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	3.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	161	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:		xxxxxx			160.7			xxxxxx			xxxxxx	
ApproachLOS:		*			F			*			*	

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-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #2
*******************************************************************************
Average Delay (sec/veh):     13.1   Worst Case Level Of Service:      F[693.8]
*******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   1  0  2  0  0   0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    49    0    12    44 1670     0     0 1458    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    49    0    12    44 1670     0     0 1458    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0    49    0    12    44 1670     0     0 1458    51
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     0    0     0    49    0    12    44 1670     0     0 1458    51
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8 xxxx   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2407 xxxx   755  1509 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    28 xxxx   356   449 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    26 xxxx   356   449 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  1.87 xxxx  0.03  0.10 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Queue:      xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.3 xxxx xxxxx xxxxx xxxx xxxxx
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  13.9 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx   32 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  6.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  694 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            693.8            xxxxxx           xxxxxx
ApproachLOS:        *                 F                *                *
```

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1468.01.ICU.EX+AMB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 3. UCLA Medical Ctr. Main Entrance & Carson Street
Description: EXISTING + AMBIENT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	33	0	0.000	N-S(1):	0.033
	TH	1.00	3	1,600	0.056 *	N-S(2):	0.090 *
	LT	0.00	53	1,600	0.033	E-W(1):	0.617 *
Westbound	RT	0.00	14	0	0.000	E-W(2):	0.435
	TH	2.00	1,367	3,200	0.432		
	LT	1.00	452	1,600	0.283 *	V/C:	0.707
Northbound	RT	1.00	201	1,600	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	55	1,600	0.034 *		
Eastbound	RT	0.00	87	0	0.000	ICU:	0.807
	TH	2.00	982	3,200	0.334 *		
	LT	1.00	5	1,600	0.003	LOS:	D

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	15	0	0.000	N-S(1):	0.108 *
	TH	1.00	2	1,600	0.019	N-S(2):	0.062
	LT	0.00	14	1,600	0.009 *	E-W(1):	0.599 *
Westbound	RT	0.00	34	0	0.000	E-W(2):	0.448
	TH	2.00	1,359	3,200	0.435		
	LT	1.00	155	1,600	0.097 *	V/C:	0.707
Northbound	RT	1.00	313	1,600	0.099 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	68	1,600	0.043		
Eastbound	RT	0.00	47	0	0.000	ICU:	0.807
	TH	2.00	1,560	3,200	0.502 *		
	LT	1.00	20	1,600	0.013	LOS:	D

* - Denotes critical movement

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1468.01.ICU.EX+AMB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 4. Vermont Avenue & Carson Street
Description: EXISTING + AMBIENT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane: 1600 vph
Left Lane: 1600 vph
Double Lt Penalty: 20 %
ITS: 0 %

N-S Split Phase : N
E-W Split Phase : N
Lost Time (% of cycle) : 10
V/C Round Off (decs.) : 3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	218	1,600	0.061	N-S(1):	0.378 *
	TH	2.00	501	3,200	0.157	N-S(2):	0.251
	LT	1.00	107	1,600	0.067 *	E-W(1):	0.438
Westbound	RT	1.00	187	1,600	0.050	E-W(2):	0.542 *
	TH	2.00	1,491	3,200	0.466 *		
	LT	1.00	184	1,600	0.115	V/C:	0.920
Northbound	RT	1.00	165	1,600	0.000	Lost Time:	0.100
	TH	2.00	996	3,200	0.311 *		
	LT	1.00	151	1,600	0.094		
Eastbound	RT	1.00	86	1,600	0.000	ICU:	1.020
	TH	2.00	1,034	3,200	0.323		
	LT	1.00	121	1,600	0.076 *	LOS:	F

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	232	1,600	0.064	N-S(1):	0.260
	TH	2.00	867	3,200	0.271 *	N-S(2):	0.338 *
	LT	1.00	181	1,600	0.113	E-W(1):	0.585 *
Westbound	RT	1.00	128	1,600	0.000	E-W(2):	0.462
	TH	2.00	1,220	3,200	0.381		
	LT	1.00	116	1,600	0.073 *	V/C:	0.923
Northbound	RT	1.00	276	1,600	0.100	Lost Time:	0.100
	TH	2.00	471	3,200	0.147		
	LT	1.00	107	1,600	0.067 *		
Eastbound	RT	1.00	130	1,600	0.014	ICU:	1.023
	TH	2.00	1,637	3,200	0.512 *		
	LT	1.00	129	1,600	0.081	LOS:	F

* - Denotes critical movement

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1468.01.ICU.EX+AMB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 5. I-110 Southbound Ramps & Carson Street
Description: EXISTING + AMBIENT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	641	1,600	0.401 *	N-S(1):	0.084
	TH	0.00	0	0	0.000	N-S(2):	0.401 *
	LT	1.00	135	1,600	0.084	E-W(1):	0.395 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.395 *
	TH	2.00	1,264	3,200	0.395 *		
	LT	1.00	180	1,600	0.113	V/C:	0.796
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	176	0	0.000	ICU:	0.896
	TH	3.00	1,177	4,800	0.282		
	LT	0.00	0	0	0.000 *	LOS:	D

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	449	1,600	0.281 *	N-S(1):	0.166
	TH	0.00	0	0	0.000	N-S(2):	0.281 *
	LT	1.00	265	1,600	0.166	E-W(1):	0.535 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.334
	TH	2.00	1,068	3,200	0.334		
	LT	1.00	149	1,600	0.093 *	V/C:	0.816
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	235	0	0.000	ICU:	0.916
	TH	3.00	1,888	4,800	0.442 *		
	LT	0.00	0	0	0.000	LOS:	E

* - Denotes critical movement

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1468.01.ICU.EX+AMB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 6. Vermont Avenue & 220th Street
Description: EXISTING + AMBIENT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	207	0	0.000	N-S(1):	0.382
	TH	2.00	559	3,200	0.239 *	N-S(2):	0.446 *
	LT	1.00	22	1,600	0.014	E-W(1):	0.162 *
Westbound	RT	0.00	34	0	0.000	E-W(2):	0.134
	TH	1.00	33	1,600	0.046		
	LT	0.00	7	1,600	0.004 *	V/C:	0.608
Northbound	RT	0.00	22	0	0.000	Lost Time:	0.100
	TH	2.00	1,156	3,200	0.368		
	LT	1.00	331	1,600	0.207 *		
Eastbound	RT	0.00	88	0	0.000	ICU:	0.708
	TH	1.00	24	1,600	0.158 *		
	LT	0.00	140	1,600	0.088	LOS:	C

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	90	0	0.000	N-S(1):	0.203
	TH	2.00	1,000	3,200	0.341 *	N-S(2):	0.369 *
	LT	1.00	15	1,600	0.009	E-W(1):	0.257 *
Westbound	RT	0.00	22	0	0.000	E-W(2):	0.153
	TH	1.00	9	1,600	0.028		
	LT	0.00	14	1,600	0.009 *	V/C:	0.626
Northbound	RT	0.00	13	0	0.000	Lost Time:	0.100
	TH	2.00	609	3,200	0.194		
	LT	1.00	44	1,600	0.028 *		
Eastbound	RT	0.00	185	0	0.000	ICU:	0.726
	TH	1.00	12	1,600	0.248 *		
	LT	0.00	200	1,600	0.125	LOS:	C

* - Denotes critical movement

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1468.01.ICU.EX+AMB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 7. Vermont Avenue & 223rd Street
Description: EXISTING + AMBIENT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	78	0	0.000	N-S(1):	0.514 *
	TH	2.00	413	3,200	0.153	N-S(2):	0.224
	LT	1.00	213	1,600	0.133 *	E-W(1):	0.346
Westbound	RT	0.00	391	0	0.000	E-W(2):	0.412 *
	TH	2.00	789	3,200	0.369 *		
	LT	1.00	223	1,600	0.139	V/C:	0.926
Northbound	RT	0.00	194	0	0.000	Lost Time:	0.100
	TH	2.00	1,025	3,200	0.381 *		
	LT	1.00	113	1,600	0.071		
Eastbound	RT	0.00	47	0	0.000	ICU:	1.026
	TH	2.00	616	3,200	0.207		
	LT	1.00	68	1,600	0.043 *	LOS:	F

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	131	0	0.000	N-S(1):	0.444 *
	TH	2.00	833	3,200	0.301	N-S(2):	0.350
	LT	1.00	403	1,600	0.252 *	E-W(1):	0.541 *
Westbound	RT	0.00	155	0	0.000	E-W(2):	0.320
	TH	2.00	715	3,200	0.272		
	LT	1.00	266	1,600	0.166 *	V/C:	0.985
Northbound	RT	0.00	172	0	0.000	Lost Time:	0.100
	TH	2.00	442	3,200	0.192 *		
	LT	1.00	78	1,600	0.049		
Eastbound	RT	0.00	104	0	0.000	ICU:	1.085
	TH	2.00	1,095	3,200	0.375 *		
	LT	1.00	77	1,600	0.048	LOS:	F

* - Denotes critical movement

Existing Plus Ambient Plus Project Conditions

Printed: 2/14/2005
Revised: 2/4/00

1468.01.ICU.EX+AMB+PROJ.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 1. Normandie Avenue & Carson Street
Description: EXISTING +AMBIENT + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	151	0	0.000	N-S(1):	0.288
	TH	2.00	471	3,200	0.194 *	N-S(2):	0.313 *
	LT	1.00	61	1,600	0.038	E-W(1):	0.460
Westbound	RT	0.00	93	0	0.000	E-W(2):	0.566 *
	TH	2.00	1,225	3,200	0.412 *		
	LT	1.00	140	1,600	0.088	V/C:	0.879
Northbound	RT	0.00	79	0	0.000	Lost Time:	0.100
	TH	2.00	720	3,200	0.250		
	LT	1.00	190	1,600	0.119 *		
Eastbound	RT	0.00	204	0	0.000	ICU:	0.979
	TH	2.00	987	3,200	0.372		
	LT	1.00	247	1,600	0.154 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	168	0	0.000	N-S(1):	0.272
	TH	2.00	725	3,200	0.279 *	N-S(2):	0.370 *
	LT	1.00	77	1,600	0.048	E-W(1):	0.620 *
Westbound	RT	0.00	104	0	0.000	E-W(2):	0.548
	TH	2.00	1,269	3,200	0.429		
	LT	1.00	154	1,600	0.096 *	V/C:	0.990
Northbound	RT	0.00	115	0	0.000	Lost Time:	0.100
	TH	2.00	603	3,200	0.224		
	LT	1.00	146	1,600	0.091 *		
Eastbound	RT	0.00	147	0	0.000	ICU:	1.090
	TH	2.00	1,531	3,200	0.524 *		
	LT	1.00	191	1,600	0.119	LOS:	F

* - Denotes critical movement

Printed: 2/16/2005
Revised: 2/4/00

1468.01.ICU.EX+AMB+PROJ.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 2. Berendo Avenue & Carson Street
Description: EXISTING +AMBIENT + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	9	0	0.000	N-S(1):	0.090 *
	TH	1.00	0	1,600	0.028	N-S(2):	0.052
	LT	0.00	36	1,600	0.023 *	E-W(1):	0.439
Westbound	RT	0.00	18	0	0.000	E-W(2):	0.453 *
	TH	2.00	1,386	3,200	0.439 *		
	LT	1.00	156	1,600	0.098	V/C:	0.543
Northbound	RT	0.00	69	0	0.000	Lost Time:	0.100
	TH	1.00	0	1,600	0.067 *		
	LT	0.00	38	1,600	0.024		
Eastbound	RT	0.00	61	0	0.000	ICU:	0.643
	TH	2.00	1,029	3,200	0.341		
	LT	1.00	23	1,600	0.014 *	LOS:	B

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	12	0	0.000	N-S(1):	0.129 *
	TH	1.00	0	1,600	0.038	N-S(2):	0.068
	LT	0.00	49	1,600	0.031 *	E-W(1):	0.556 *
Westbound	RT	0.00	51	0	0.000	E-W(2):	0.486
	TH	2.00	1,415	3,200	0.458		
	LT	1.00	54	1,600	0.034 *	V/C:	0.685
Northbound	RT	0.00	109	0	0.000	Lost Time:	0.100
	TH	1.00	0	1,600	0.098 *		
	LT	0.00	48	1,600	0.030		
Eastbound	RT	0.00	32	0	0.000	ICU:	0.785
	TH	2.00	1,639	3,200	0.522 *		
	LT	1.00	44	1,600	0.028	LOS:	C

* - Denotes critical movement

Printed: 2/16/2005
Revised: 2/4/00

1468.01.ICU.EX+AMB+PROJ.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 3. UCLA Medical Ctr. Main Entrance & Carson Street
Description: EXISTING +AMBIENT + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	33	0	0.000	N-S(1):	0.033
	TH	1.00	3	1,600	0.056 *	N-S(2):	0.068 *
	LT	0.00	53	1,600	0.033	E-W(1):	0.532 *
Westbound	RT	0.00	14	0	0.000	E-W(2):	0.483
	TH	2.00	1,523	3,200	0.480		
	LT	1.00	311	1,600	0.194 *	V/C:	0.600
Northbound	RT	1.00	137	1,600	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	19	1,600	0.012 *		
Eastbound	RT	0.00	31	0	0.000	ICU:	0.700
	TH	2.00	1,050	3,200	0.338 *		
	LT	1.00	5	1,600	0.003	LOS:	B

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	15	0	0.000	N-S(1):	0.080 *
	TH	1.00	2	1,600	0.019	N-S(2):	0.035
	LT	0.00	14	1,600	0.009 *	E-W(1):	0.593 *
Westbound	RT	0.00	34	0	0.000	E-W(2):	0.465
	TH	2.00	1,412	3,200	0.452		
	LT	1.00	106	1,600	0.066 *	V/C:	0.673
Northbound	RT	1.00	219	1,600	0.071 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	25	1,600	0.016		
Eastbound	RT	0.00	17	0	0.000	ICU:	0.773
	TH	2.00	1,669	3,200	0.527 *		
	LT	1.00	20	1,600	0.013	LOS:	C

* - Denotes critical movement

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1468.01.ICU.EX+AMB+PROJ.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 4. Vermont Avenue & Carson Street
Description: EXISTING +AMBIENT + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	219	1,600	0.061	N-S(1):	0.378 *
	TH	2.00	501	3,200	0.157	N-S(2):	0.252
	LT	1.00	107	1,600	0.067 *	E-W(1):	0.439
Westbound	RT	1.00	187	1,600	0.050	E-W(2):	0.546 *
	TH	2.00	1,503	3,200	0.470 *		
	LT	1.00	184	1,600	0.115	V/C:	0.924
Northbound	RT	1.00	165	1,600	0.000	Lost Time:	0.100
	TH	2.00	996	3,200	0.311 *		
	LT	1.00	152	1,600	0.095		
Eastbound	RT	1.00	86	1,600	0.000	ICU:	1.024
	TH	2.00	1,038	3,200	0.324		
	LT	1.00	121	1,600	0.076 *	LOS:	F

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	232	1,600	0.064	N-S(1):	0.260
	TH	2.00	867	3,200	0.271 *	N-S(2):	0.338 *
	LT	1.00	181	1,600	0.113	E-W(1):	0.588 *
Westbound	RT	1.00	128	1,600	0.000	E-W(2):	0.464
	TH	2.00	1,224	3,200	0.383		
	LT	1.00	116	1,600	0.073 *	V/C:	0.926
Northbound	RT	1.00	276	1,600	0.100	Lost Time:	0.100
	TH	2.00	471	3,200	0.147		
	LT	1.00	107	1,600	0.067 *		
Eastbound	RT	1.00	131	1,600	0.015	ICU:	1.026
	TH	2.00	1,649	3,200	0.515 *		
	LT	1.00	130	1,600	0.081	LOS:	F

* - Denotes critical movement

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1468.01.ICU.EX+AMB+PROJ.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 5. I-110 Southbound Ramps & Carson Street
Description: EXISTING +AMBIENT + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	647	1,600	0.404 *	N-S(1):	0.084
	TH	0.00	0	0	0.000	N-S(2):	0.404 *
	LT	1.00	135	1,600	0.084	E-W(1):	0.396
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.397 *
	TH	2.00	1,270	3,200	0.397 *		
	LT	1.00	180	1,600	0.113	V/C:	0.801
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	177	0	0.000	ICU:	0.901
	TH	3.00	1,180	4,800	0.283		
	LT	0.00	0	0	0.000 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	452	1,600	0.283 *	N-S(1):	0.166
	TH	0.00	0	0	0.000	N-S(2):	0.283 *
	LT	1.00	265	1,600	0.166	E-W(1):	0.538 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.334
	TH	2.00	1,070	3,200	0.334		
	LT	1.00	149	1,600	0.093 *	V/C:	0.821
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	238	0	0.000	ICU:	0.921
	TH	3.00	1,897	4,800	0.445 *		
	LT	0.00	0	0	0.000	LOS:	E

* - Denotes critical movement

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 6. Vermont Avenue & 220th Street
Description: EXISTING +AMBIENT + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	207	0	0.000	N-S(1):	0.382
	TH	2.00	559	3,200	0.239 *	N-S(2):	0.447 *
	LT	1.00	22	1,600	0.014	E-W(1):	0.162 *
Westbound	RT	0.00	34	0	0.000	E-W(2):	0.134
	TH	1.00	33	1,600	0.046		
	LT	0.00	7	1,600	0.004 *	V/C:	0.609
Northbound	RT	0.00	22	0	0.000	Lost Time:	0.100
	TH	2.00	1,157	3,200	0.368		
	LT	1.00	332	1,600	0.208 *		
Eastbound	RT	0.00	89	0	0.000	ICU:	0.709
	TH	1.00	24	1,600	0.158 *		
	LT	0.00	140	1,600	0.088	LOS:	C

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	90	0	0.000	N-S(1):	0.203
	TH	2.00	1,001	3,200	0.341 *	N-S(2):	0.369 *
	LT	1.00	15	1,600	0.009	E-W(1):	0.258 *
Westbound	RT	0.00	22	0	0.000	E-W(2):	0.153
	TH	1.00	9	1,600	0.028		
	LT	0.00	14	1,600	0.009 *	V/C:	0.627
Northbound	RT	0.00	13	0	0.000	Lost Time:	0.100
	TH	2.00	609	3,200	0.194		
	LT	1.00	44	1,600	0.028 *		
Eastbound	RT	0.00	186	0	0.000	ICU:	0.727
	TH	1.00	12	1,600	0.249 *		
	LT	0.00	200	1,600	0.125	LOS:	C

* - Denotes critical movement

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 7. Vermont Avenue & 223rd Street
Description: EXISTING +AMBIENT + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	78	0	0.000	N-S(1):	0.515 *
	TH	2.00	413	3,200	0.153	N-S(2):	0.224
	LT	1.00	214	1,600	0.134 *	E-W(1):	0.346
Westbound	RT	0.00	392	0	0.000	E-W(2):	0.412 *
	TH	2.00	789	3,200	0.369 *		
	LT	1.00	223	1,600	0.139	V/C:	0.927
Northbound	RT	0.00	194	0	0.000	Lost Time:	0.100
	TH	2.00	1,026	3,200	0.381 *		
	LT	1.00	113	1,600	0.071		
Eastbound	RT	0.00	47	0	0.000	ICU:	1.027
	TH	2.00	616	3,200	0.207		
	LT	1.00	68	1,600	0.043 *	LOS:	F

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	131	0	0.000	N-S(1):	0.445 *
	TH	2.00	834	3,200	0.302	N-S(2):	0.351
	LT	1.00	404	1,600	0.253 *	E-W(1):	0.541 *
Westbound	RT	0.00	156	0	0.000	E-W(2):	0.320
	TH	2.00	715	3,200	0.272		
	LT	1.00	266	1,600	0.166 *	V/C:	0.986
Northbound	RT	0.00	172	0	0.000	Lost Time:	0.100
	TH	2.00	442	3,200	0.192 *		
	LT	1.00	78	1,600	0.049		
Eastbound	RT	0.00	104	0	0.000	ICU:	1.086
	TH	2.00	1,095	3,200	0.375 *		
	LT	1.00	77	1,600	0.048	LOS:	F

* - Denotes critical movement

Cumulative Base Conditions

Printed: 2/14/2005
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1468.01.ICU.CB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 1. Normandie Avenue & Carson Street
Description: CUMULATIVE BASE CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	151	0	0.000	N-S(1):	0.289
	TH	2.00	479	3,200	0.197 *	N-S(2):	0.316 *
	LT	1.00	61	1,600	0.038	E-W(1):	0.461
Westbound	RT	0.00	94	0	0.000	E-W(2):	0.567 *
	TH	2.00	1,228	3,200	0.413 *		
	LT	1.00	143	1,600	0.089	V/C:	0.883
Northbound	RT	0.00	80	0	0.000	Lost Time:	0.100
	TH	2.00	722	3,200	0.251		
	LT	1.00	190	1,600	0.119 *		
Eastbound	RT	0.00	204	0	0.000	ICU:	0.983
	TH	2.00	987	3,200	0.372		
	LT	1.00	247	1,600	0.154 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	168	0	0.000	N-S(1):	0.276
	TH	2.00	730	3,200	0.281 *	N-S(2):	0.372 *
	LT	1.00	79	1,600	0.049	E-W(1):	0.623 *
Westbound	RT	0.00	105	0	0.000	E-W(2):	0.549
	TH	2.00	1,270	3,200	0.430		
	LT	1.00	157	1,600	0.098 *	V/C:	0.995
Northbound	RT	0.00	119	0	0.000	Lost Time:	0.100
	TH	2.00	607	3,200	0.227		
	LT	1.00	146	1,600	0.091 *		
Eastbound	RT	0.00	147	0	0.000	ICU:	1.095
	TH	2.00	1,533	3,200	0.525 *		
	LT	1.00	191	1,600	0.119	LOS:	F

* - Denotes critical movement

```
------------------------------------------------------------------------------
------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #2
******************************************************************************
Average Delay (sec/veh):       3.0    Worst Case Level Of Service:     F[165.8]
******************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0     0    36    0     9    23 1092     0     0 1431    18
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0     0    36    0     9    23 1092     0     0 1431    18
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0    0     0    36    0     9    23 1092     0     0 1431    18
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0    0     0    36    0     9    23 1092     0     0 1431    18
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8 xxxx   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2032 xxxx   725  1449 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    51 xxxx   372   474 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    49 xxxx   372   474 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.74 xxxx  0.02  0.05 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Queue:      xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.2 xxxx xxxxx xxxxx xxxx xxxxx
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  13.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx   59 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  166 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      xxxxxx            165.8            xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
```

```
-----------------------------------------------------------------------------
-----------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*****************************************************************************
Intersection #2
*****************************************************************************
Average Delay (sec/veh):      13.5    Worst Case Level Of Service:     F[718.3]
*****************************************************************************
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Uncontrolled      Uncontrolled
Rights:          Include           Include           Include           Include
Lanes:         0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|----------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0     0     49    0    12     44 1679     0     0 1468    51
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0     0     49    0    12     44 1679     0     0 1468    51
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0    0     0     49    0    12     44 1679     0     0 1468    51
Reduct Vol:      0    0     0      0    0     0      0    0     0     0    0     0
Final Vol.:      0    0     0     49    0    12     44 1679     0     0 1468    51
------------|----------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx    6.8 xxxx   6.9    4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx    3.5 xxxx   3.3    2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|----------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   2421 xxxx   760   1519 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx     28 xxxx   353    445 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx     26 xxxx   353    445 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx   1.92 xxxx  0.03   0.10 xxxx  xxxx  xxxx xxxx  xxxx
------------|----------------||---------------||---------------||---------------|
Level Of Service Module:
Queue:      xxxxx xxxx xxxxx xxxxx xxxx xxxxx    0.3 xxxx xxxxx xxxxx xxxx xxxxx
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   14.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *      B    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   xxxx   31 xxxxx   xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  7.0 xxxxx  xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  718 xxxxx  xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *      *    *     *     *    *     *
ApproachDel:      xxxxxx            718.3            xxxxxx            xxxxxx
ApproachLOS:         *                 F                *                 *
```

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1468.01.ICU.CB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 3. UCLA Medical Ctr. Main Entrance & Carson Street
Description: CUMULATIVE BASE CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	33	0	0.000	N-S(1):	0.033
	TH	1.00	3	1,600	0.056 *	N-S(2):	0.090 *
	LT	0.00	53	1,600	0.033	E-W(1):	0.619 *
Westbound	RT	0.00	14	0	0.000	E-W(2):	0.437
	TH	2.00	1,376	3,200	0.434		
	LT	1.00	452	1,600	0.283 *	V/C:	0.709
Northbound	RT	1.00	201	1,600	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	55	1,600	0.034 *		
Eastbound	RT	0.00	87	0	0.000	ICU:	0.809
	TH	2.00	988	3,200	0.336 *		
	LT	1.00	5	1,600	0.003	LOS:	D

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	15	0	0.000	N-S(1):	0.108 *
	TH	1.00	2	1,600	0.019	N-S(2):	0.062
	LT	0.00	14	1,600	0.009 *	E-W(1):	0.602 *
Westbound	RT	0.00	34	0	0.000	E-W(2):	0.451
	TH	2.00	1,368	3,200	0.438		
	LT	1.00	155	1,600	0.097 *	V/C:	0.710
Northbound	RT	1.00	313	1,600	0.099 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	68	1,600	0.043		
Eastbound	RT	0.00	47	0	0.000	ICU:	0.810
	TH	2.00	1,570	3,200	0.505 *		
	LT	1.00	20	1,600	0.013	LOS:	D

* - Denotes critical movement

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1468.01.ICU.CB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 4. Vermont Avenue & Carson Street
Description: CUMULATIVE BASE CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	218	1,600	0.061	N-S(1):	0.380 *
	TH	2.00	505	3,200	0.158	N-S(2):	0.252
	LT	1.00	108	1,600	0.068 *	E-W(1):	0.441
Westbound	RT	1.00	188	1,600	0.050	E-W(2):	0.545 *
	TH	2.00	1,500	3,200	0.469 *		
	LT	1.00	185	1,600	0.116	V/C:	0.925
Northbound	RT	1.00	166	1,600	0.000	Lost Time:	0.100
	TH	2.00	998	3,200	0.312 *		
	LT	1.00	151	1,600	0.094		
Eastbound	RT	1.00	86	1,600	0.000	ICU:	1.025
	TH	2.00	1,040	3,200	0.325		
	LT	1.00	121	1,600	0.076 *	LOS:	F

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	232	1,600	0.064	N-S(1):	0.263
	TH	2.00	870	3,200	0.272 *	N-S(2):	0.339 *
	LT	1.00	182	1,600	0.114	E-W(1):	0.587 *
Westbound	RT	1.00	129	1,600	0.000	E-W(2):	0.465
	TH	2.00	1,229	3,200	0.384		
	LT	1.00	117	1,600	0.073 *	V/C:	0.926
Northbound	RT	1.00	278	1,600	0.101	Lost Time:	0.100
	TH	2.00	476	3,200	0.149		
	LT	1.00	107	1,600	0.067 *		
Eastbound	RT	1.00	130	1,600	0.014	ICU:	1.026
	TH	2.00	1,646	3,200	0.514 *		
	LT	1.00	129	1,600	0.081	LOS:	F

* - Denotes critical movement

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1468.01.ICU.CB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 5. I-110 Southbound Ramps & Carson Street
Description: CUMULATIVE BASE CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	645	1,600	0.403 *	N-S(1):	0.085
	TH	0.00	0	0	0.000	N-S(2):	0.403 *
	LT	1.00	136	1,600	0.085	E-W(1):	0.397
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.398 *
	TH	2.00	1,275	3,200	0.398 *		
	LT	1.00	180	1,600	0.113	V/C:	0.801
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	178	0	0.000	ICU:	0.901
	TH	3.00	1,183	4,800	0.284		
	LT	0.00	0	0	0.000 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	454	1,600	0.284 *	N-S(1):	0.166
	TH	0.00	0	0	0.000	N-S(2):	0.284 *
	LT	1.00	265	1,600	0.166	E-W(1):	0.538 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.338
	TH	2.00	1,080	3,200	0.338		
	LT	1.00	149	1,600	0.093 *	V/C:	0.822
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	239	0	0.000	ICU:	0.922
	TH	3.00	1,899	4,800	0.445 *		
	LT	0.00	0	0	0.000	LOS:	E

* - Denotes critical movement

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1468.01.ICU.CB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 6. Vermont Avenue & 220th Street
Description: CUMULATIVE BASE CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	207	0	0.000	N-S(1):	0.383
	TH	2.00	563	3,200	0.241 *	N-S(2):	0.448 *
	LT	1.00	22	1,600	0.014	E-W(1):	0.162 *
Westbound	RT	0.00	34	0	0.000	E-W(2):	0.134
	TH	1.00	33	1,600	0.046		
	LT	0.00	7	1,600	0.004 *	V/C:	0.610
Northbound	RT	0.00	22	0	0.000	Lost Time:	0.100
	TH	2.00	1,159	3,200	0.369		
	LT	1.00	331	1,600	0.207 *		
Eastbound	RT	0.00	88	0	0.000	ICU:	0.710
	TH	1.00	24	1,600	0.158 *		
	LT	0.00	140	1,600	0.088	LOS:	C

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	90	0	0.000	N-S(1):	0.205
	TH	2.00	1,004	3,200	0.342 *	N-S(2):	0.370 *
	LT	1.00	15	1,600	0.009	E-W(1):	0.257 *
Westbound	RT	0.00	22	0	0.000	E-W(2):	0.153
	TH	1.00	9	1,600	0.028		
	LT	0.00	14	1,600	0.009 *	V/C:	0.627
Northbound	RT	0.00	13	0	0.000	Lost Time:	0.100
	TH	2.00	615	3,200	0.196		
	LT	1.00	44	1,600	0.028 *		
Eastbound	RT	0.00	185	0	0.000	ICU:	0.727
	TH	1.00	12	1,600	0.248 *		
	LT	0.00	200	1,600	0.125	LOS:	C

* - Denotes critical movement

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1468.01.ICU.CB.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 7. Vermont Avenue & 223rd Street
Description: CUMULATIVE BASE CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	79	0	0.000	N-S(1):	0.515 *
	TH	2.00	416	3,200	0.155	N-S(2):	0.226
	LT	1.00	213	1,600	0.133 *	E-W(1):	0.349
Westbound	RT	0.00	391	0	0.000	E-W(2):	0.415 *
	TH	2.00	798	3,200	0.372 *		
	LT	1.00	224	1,600	0.140	V/C:	0.930
Northbound	RT	0.00	195	0	0.000	Lost Time:	0.100
	TH	2.00	1,027	3,200	0.382 *		
	LT	1.00	113	1,600	0.071		
Eastbound	RT	0.00	47	0	0.000	ICU:	1.030
	TH	2.00	623	3,200	0.209		
	LT	1.00	69	1,600	0.043 *	LOS:	F

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	132	0	0.000	N-S(1):	0.446 *
	TH	2.00	837	3,200	0.303	N-S(2):	0.352
	LT	1.00	403	1,600	0.252 *	E-W(1):	0.545 *
Westbound	RT	0.00	155	0	0.000	E-W(2):	0.323
	TH	2.00	721	3,200	0.274		
	LT	1.00	266	1,600	0.166 *	V/C:	0.991
Northbound	RT	0.00	174	0	0.000	Lost Time:	0.100
	TH	2.00	447	3,200	0.194 *		
	LT	1.00	78	1,600	0.049		
Eastbound	RT	0.00	104	0	0.000	ICU:	1.091
	TH	2.00	1,108	3,200	0.379 *		
	LT	1.00	78	1,600	0.049	LOS:	F

* - Denotes critical movement

Cumulative Plus Project Conditions

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1468.01.ICU.CP.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 1. Normandie Avenue & Carson Street
Description: CUMULATIVE BASE + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	151	0	0.000	N-S(1):	0.290
	TH	2.00	479	3,200	0.197 *	N-S(2):	0.316 *
	LT	1.00	62	1,600	0.039	E-W(1):	0.463
Westbound	RT	0.00	94	0	0.000	E-W(2):	0.567 *
	TH	2.00	1,229	3,200	0.413 *		
	LT	1.00	144	1,600	0.090	V/C:	0.883
Northbound	RT	0.00	82	0	0.000	Lost Time:	0.100
	TH	2.00	722	3,200	0.251		
	LT	1.00	190	1,600	0.119 *		
Eastbound	RT	0.00	204	0	0.000	ICU:	0.983
	TH	2.00	989	3,200	0.373		
	LT	1.00	247	1,600	0.154 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	168	0	0.000	N-S(1):	0.276
	TH	2.00	730	3,200	0.281 *	N-S(2):	0.372 *
	LT	1.00	79	1,600	0.049	E-W(1):	0.624 *
Westbound	RT	0.00	106	0	0.000	E-W(2):	0.550
	TH	2.00	1,272	3,200	0.431		
	LT	1.00	158	1,600	0.099 *	V/C:	0.996
Northbound	RT	0.00	119	0	0.000	Lost Time:	0.100
	TH	2.00	607	3,200	0.227		
	LT	1.00	146	1,600	0.091 *		
Eastbound	RT	0.00	147	0	0.000	ICU:	1.096
	TH	2.00	1,534	3,200	0.525 *		
	LT	1.00	191	1,600	0.119	LOS:	F

* - Denotes critical movement

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1468.01.ICU.CP.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 2. Berendo Avenue & Carson Street
Description: CUMULATIVE BASE + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	9	0	0.000	N-S(1):	0.090 *
	TH	1.00	0	1,600	0.028	N-S(2):	0.052
	LT	0.00	36	1,600	0.023 *	E-W(1):	0.441
Westbound	RT	0.00	18	0	0.000	E-W(2):	0.456 *
	TH	2.00	1,395	3,200	0.442 *		
	LT	1.00	156	1,600	0.098	V/C:	0.546
Northbound	RT	0.00	69	0	0.000	Lost Time:	0.100
	TH	1.00	0	1,600	0.067 *		
	LT	0.00	38	1,600	0.024		
Eastbound	RT	0.00	61	0	0.000	ICU:	0.646
	TH	2.00	1,035	3,200	0.343		
	LT	1.00	23	1,600	0.014 *	LOS:	B

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	12	0	0.000	N-S(1):	0.129 *
	TH	1.00	0	1,600	0.038	N-S(2):	0.068
	LT	0.00	49	1,600	0.031 *	E-W(1):	0.559 *
Westbound	RT	0.00	51	0	0.000	E-W(2):	0.489
	TH	2.00	1,424	3,200	0.461		
	LT	1.00	54	1,600	0.034 *	V/C:	0.688
Northbound	RT	0.00	109	0	0.000	Lost Time:	0.100
	TH	1.00	0	1,600	0.098 *		
	LT	0.00	48	1,600	0.030		
Eastbound	RT	0.00	32	0	0.000	ICU:	0.788
	TH	2.00	1,649	3,200	0.525 *		
	LT	1.00	44	1,600	0.028	LOS:	C

* - Denotes critical movement

Printed: 2/16/2005 1468.01.ICU.CP.xls
Revised: 2/4/00

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 3. UCLA Medical Ctr. Main Entrance & Carson Street
Description: CUMULATIVE BASE + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	33	0	0.000	N-S(1):	0.033
	TH	1.00	3	1,600	0.056 *	N-S(2):	0.068 *
	LT	0.00	53	1,600	0.033	E-W(1):	0.534 *
Westbound	RT	0.00	14	0	0.000	E-W(2):	0.486
	TH	2.00	1,532	3,200	0.483		
	LT	1.00	311	1,600	0.194 *	V/C:	0.602
Northbound	RT	1.00	137	1,600	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	19	1,600	0.012 *		
Eastbound	RT	0.00	31	0	0.000	ICU:	0.702
	TH	2.00	1,056	3,200	0.340 *		
	LT	1.00	5	1,600	0.003	LOS:	C

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	15	0	0.000	N-S(1):	0.080 *
	TH	1.00	2	1,600	0.019	N-S(2):	0.035
	LT	0.00	14	1,600	0.009 *	E-W(1):	0.596 *
Westbound	RT	0.00	34	0	0.000	E-W(2):	0.468
	TH	2.00	1,421	3,200	0.455		
	LT	1.00	106	1,600	0.066 *	V/C:	0.676
Northbound	RT	1.00	219	1,600	0.071 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	25	1,600	0.016		
Eastbound	RT	0.00	17	0	0.000	ICU:	0.776
	TH	2.00	1,679	3,200	0.530 *		
	LT	1.00	20	1,600	0.013	LOS:	C

* - Denotes critical movement

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Revised: 2/4/00

1468.01.ICU.CP.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 4. Vermont Avenue & Carson Street
Description: CUMULATIVE BASE + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	219	1,600	0.061	N-S(1):	0.380 *
	TH	2.00	505	3,200	0.158	N-S(2):	0.253
	LT	1.00	108	1,600	0.068 *	E-W(1):	0.442
Westbound	RT	1.00	188	1,600	0.050	E-W(2):	0.549 *
	TH	2.00	1,512	3,200	0.473 *		
	LT	1.00	185	1,600	0.116	V/C:	0.929
Northbound	RT	1.00	166	1,600	0.000	Lost Time:	0.100
	TH	2.00	998	3,200	0.312 *		
	LT	1.00	152	1,600	0.095		
Eastbound	RT	1.00	86	1,600	0.000	ICU:	1.029
	TH	2.00	1,044	3,200	0.326		
	LT	1.00	121	1,600	0.076 *	LOS:	F

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	232	1,600	0.064	N-S(1):	0.263
	TH	2.00	870	3,200	0.272 *	N-S(2):	0.339 *
	LT	1.00	182	1,600	0.114	E-W(1):	0.591 *
Westbound	RT	1.00	129	1,600	0.000	E-W(2):	0.466
	TH	2.00	1,233	3,200	0.385		
	LT	1.00	117	1,600	0.073 *	V/C:	0.930
Northbound	RT	1.00	278	1,600	0.101	Lost Time:	0.100
	TH	2.00	476	3,200	0.149		
	LT	1.00	107	1,600	0.067 *		
Eastbound	RT	1.00	131	1,600	0.015	ICU:	1.030
	TH	2.00	1,659	3,200	0.518 *		
	LT	1.00	130	1,600	0.081	LOS:	F

* - Denotes critical movement

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1468.01.ICU.CP.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 5. I-110 Southbound Ramps & Carson Street
Description: CUMULATIVE BASE + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	651	1,600	0.407 *	N-S(1):	0.085
	TH	0.00	0	0	0.000	N-S(2):	0.407 *
	LT	1.00	136	1,600	0.085	E-W(1):	0.397
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.400 *
	TH	2.00	1,281	3,200	0.400 *		
	LT	1.00	180	1,600	0.113	V/C:	0.807
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	179	0	0.000	ICU:	0.907
	TH	3.00	1,186	4,800	0.284		
	LT	0.00	0	0	0.000 *	LOS:	E

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	456	1,600	0.285 *	N-S(1):	0.166
	TH	0.00	0	0	0.000	N-S(2):	0.285 *
	LT	1.00	265	1,600	0.166	E-W(1):	0.541 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.338
	TH	2.00	1,082	3,200	0.338		
	LT	1.00	149	1,600	0.093 *	V/C:	0.826
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	243	0	0.000	ICU:	0.926
	TH	3.00	1,909	4,800	0.448 *		
	LT	0.00	0	0	0.000	LOS:	E

* - Denotes critical movement

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1468.01.ICU.CP.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 6. Vermont Avenue & 220th Street
Description: CUMULATIVE BASE + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	207	0	0.000	N-S(1):	0.383
	TH	2.00	564	3,200	0.241 *	N-S(2):	0.449 *
	LT	1.00	22	1,600	0.014	E-W(1):	0.162 *
Westbound	RT	0.00	34	0	0.000	E-W(2):	0.134
	TH	1.00	33	1,600	0.046		
	LT	0.00	7	1,600	0.004 *	V/C:	0.611
Northbound	RT	0.00	22	0	0.000	Lost Time:	0.100
	TH	2.00	1,160	3,200	0.369		
	LT	1.00	332	1,600	0.208 *		
Eastbound	RT	0.00	89	0	0.000	ICU:	0.711
	TH	1.00	24	1,600	0.158 *		
	LT	0.00	140	1,600	0.088	LOS:	C

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	90	0	0.000	N-S(1):	0.205
	TH	2.00	1,005	3,200	0.342 *	N-S(2):	0.370 *
	LT	1.00	15	1,600	0.009	E-W(1):	0.258 *
Westbound	RT	0.00	22	0	0.000	E-W(2):	0.153
	TH	1.00	9	1,600	0.028		
	LT	0.00	14	1,600	0.009 *	V/C:	0.628
Northbound	RT	0.00	13	0	0.000	Lost Time:	0.100
	TH	2.00	615	3,200	0.196		
	LT	1.00	45	1,600	0.028 *		
Eastbound	RT	0.00	186	0	0.000	ICU:	0.728
	TH	1.00	12	1,600	0.249 *		
	LT	0.00	200	1,600	0.125	LOS:	C

* - Denotes critical movement

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1468.01.ICU.CP.xls

Project Title: Harbor UCLA Medical Center - County Hospital
Intersection: 7. Vermont Avenue & 223rd Street
Description: CUMULATIVE BASE + PROJECT CONDITIONS

Date/Time: AM PEAK HOUR (7:30-8:30)

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	79	0	0.000	N-S(1):	0.517 *
	TH	2.00	417	3,200	0.155	N-S(2):	0.226
	LT	1.00	214	1,600	0.134 *	E-W(1):	0.349
Westbound	RT	0.00	392	0	0.000	E-W(2):	0.415 *
	TH	2.00	798	3,200	0.372 *		
	LT	1.00	224	1,600	0.140	V/C:	0.932
Northbound	RT	0.00	195	0	0.000	Lost Time:	0.100
	TH	2.00	1,029	3,200	0.383 *		
	LT	1.00	113	1,600	0.071		
Eastbound	RT	0.00	47	0	0.000	ICU:	1.032
	TH	2.00	623	3,200	0.209		
	LT	1.00	69	1,600	0.043 *	LOS:	F

Date/Time: PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	132	0	0.000	N-S(1):	0.447 *
	TH	2.00	838	3,200	0.303	N-S(2):	0.352
	LT	1.00	404	1,600	0.253 *	E-W(1):	0.545 *
Westbound	RT	0.00	156	0	0.000	E-W(2):	0.323
	TH	2.00	721	3,200	0.274		
	LT	1.00	266	1,600	0.166 *	V/C:	0.992
Northbound	RT	0.00	174	0	0.000	Lost Time:	0.100
	TH	2.00	448	3,200	0.194 *		
	LT	1.00	78	1,600	0.049		
Eastbound	RT	0.00	104	0	0.000	ICU:	1.092
	TH	2.00	1,108	3,200	0.379 *		
	LT	1.00	78	1,600	0.049	LOS:	F

* - Denotes critical movement

APPENDIX D

SPACE USE DISTRIBUTION FOR PARKING CODE ANALYSIS

APPENDIX D
SPACE USE DISTRIBUTION FOR PARKING CODE ANALYSIS
Harbor-UCLA Medical Center S/E Replacement Project

Location	Department	Gross SF [a]
HOSPITAL USE (553 Beds)		
***Unit I Main Building -- Existing Hospital Uses** (including some outpatient use, see p. 2 of 3)*		
Main Unit Sub-Basement	Hospital Sub-Basement	12,103
Main Unit Basement	Hospital	78,886
Main Unit 1st Floor	Hospital	92,923
Main Unit 2nd Floor	Hospital	84,171
Main Unit 3rd Floor	Hospital	41,957
Main Unit 4th Floor	Hospital	31,916
Main Unit 5th Floor	Hospital	32,437
Main Unit 6th Floor	Hospital	32,437
Main Unit 7th Floor	Hospital	31,897
Main Unit 8th Floor	Hospital	31,899
Main Unit 9th Floor	Hospital Penthouse	7,216
PCDC Basement	Hospital	18,350
PCDC 1st Floor	Hospital	17,560
PCDC 2nd Floor	Hospital	16,480
PCDC 3rd Floor (Penthouse)	Hospital	5,165
Subtotal Unit I Main Building (Existing)		535,397
Unit I Main Building -- New Construction		
New Construction: Surgery/Emergency Hospital Addition		183,435 [b]
Subtotal Unit I Main Building (New Construction)		183,435
Subtotal Unit I Main Building (Existing Plus New)		718,832
Unit I -- Other Existing Hospital Uses		
1 East	QARM/Surgery Administration	6,600
2 East/Centrex	Information Systems	1,500
1 South	Psychiatry/Crisis Rs. Unit	9,850
2 South	Integrated Services (Able Program)	5,385
3 South	Revenue Management	9,360
3 South Addition		2,880
A.F. Parlow Library	Library	22,500
Warehouse #1/Central Plant	Materials Management/Central Plant	37,075
Warehouse #2	Materials Management	4,627
Emergency Generator Utility	Mechanical	6,500
Cooling Tower	Mechanical	n/a
Subtotal Unit I Other Hospital (Existing)		106,277
Unit II -- Existing Hospital Uses		
D-3.5	Expenditure Mgt./Info. Systems	6,447
D-9 Trailer	Emergency Medicine	n/a [d]
F-3	Mechanical	5,454
F-4 Trailer	Hospital Planning & Architecture	5,904
F-8		2,919
F-8 Annex		1,124
H-1	DHS Transportation	830
Hazmat Storage	Environmental Health & Safety	3,072
L-2/L-3	Human Resources	6,233
L-4	Payroll	3,600
Mechanical Shops	Mechanical	3,255
N-6	Medical Records	2,257
N-8	Radiology File Building	11,400
N-9	Medical Records Chart Files	9,793
N-18	Nursing/Prof. Practice Affairs	2,160
N-25	Finance/Pediatrics/Neurology	25,500
N-32	Environmental Health & Safety	3,600
N-35	DHS/Ob/Gyn	1,497
Paint Shop	Mechanical	1,700
T-1	Mechanical	2,450
826 W. 220th Street	Enviro. Services/Police/Storage	n/a [c]
Subtotal Unit II Hospital (Existing)		99,195
Unit II Hospital -- New Construction		
Subtotal Unit II Hospital (New Construction)		n/a
Subtotal Unit II Hospital (Existing Plus New)		99,195
Total Hospital Use (Existing)		740,869
Total Hospital Use (Existing Plus New)		924,304

Notes:

a. Source: County of Los Angeles Department of Health Services, 1/17/02; reconfirmed and updated by Department of Public Works in January 2005 and April 2005.

b. SF from OSSA shown in outpatient use has been subtracted (190,300 SF - 6,865 SF = 183,435 SF).

c. Leased space (not on grounds).

d. To be demolished as part of project.

APPENDIX D
SPACE USE DISTRIBUTION FOR PARKING CODE ANALYSIS
Harbor-UCLA Medical Center S/E Replacement Project

Location	Department	Gross SF [a]
OUTPATIENT USE		
***Unit I -- Existing Outpatient Uses** (included in Medical Center square footage on p. 1 of 3)*		
Medical/Surgical Clinic		5,091
General Medicine Clinic		4,800
Pulmonary Function		1,092
GI/Endoscopy Clinic		1,320
Surgery Clinic		1,352
Breast Clinic		873
Orthopedic Clinic		3,454
Orthopedic Cast Room		1,208
Ophthalmology Clinic		2,307
Oral Surgery Clinic		2,098
Urology Clinic		4,237
ENT/Audiology		3,963
Speech Pathology		1,440
Psychiatric Clinic		8,300
Clinical Social Work		1,627
Home Health		792
Radiation Therapy		5,390
Nuclear Medicine (25% of space)		2,092
Imaging Center (25% of space)		2,697
Subtotal Unit I Outpatient (Existing)		54,133
Unit I -- New Remodeling/New Construction		
New Remodeling: Cardiology		3,351
New Remodeling: Cardiac Rehab		3,068
New Remodeling: Neurodiagnostics		3,290
New Remodeling: IV Administration/Chemotherapy		4,210
New Construction: Outpatient Surgery Staging Area (OSSA)		6,865
Subtotal Unit I Outpatient (New Remodeling/New Construction)		20,784
Subtotal Unit I Outpatient (Existing Plus New)		74,917
Unit II -- Outpatient Uses		
Childcare Center	Hospital Administration	4,360 [d]
Child/Family Dev. Ctr.	Children's Institute International-CII	23,435
Cottage #14	DHS/Child Health Dis. & Prev.	875
Cottage #16	Nursing/Homecare	875
Cottage #18	Pediatrics	875
D-2	Mental Health	3,523
D-2.5	Mental Health	1,420
D-4.5	Mental Health	1,440
D-5	Mental Health	4,532
D-5 Annex	Mental Health	1,200
D-5 Trailer	Mental Health	5,533
D-6	Mental Health	4,114
D-6 Ramp Office	Mental Health	768
Family Health Center	Family Medicine	n/a [c]
Imaging Center/MRI	American Health Services	14,400
J-3	LA Bio Med (Women's Health Initiative)	5,775
N-1	Audiology	n/a [e]
N-22	Social Services/Pharmacy	2,650
N-24	Medicine/Outpatient Clinic	11,350
N-24A	(New Modular Trailer)	1,200 [f]
N-24 HIV	Medicine/Outpatient Clinic/HIV	3,600
N-26	Child Crisis Center	2,592
N-28	Obstetrics/Gynecology	12,881
N-31	Occupational & Phys. Therapy	4,800
N-34	DHS Child Health Disab. & Prevent.	1,125
Professional Bldg./MFI	Medical Foundation, Inc.	54,087
Subtotal Unit II Outpatient (Existing)		167,410
Total Outpatient Use (Existing)		221,543
Total Outpatient Use (Existing Plus New)		242,327

Notes:
a. Source: County of Los Angeles Department of Health Services, 1/17/02; reconfirmed and updated by Department of Public Works in January 2005 and April 2005.
c. Leased space (not on grounds).
d. Located at 975 West Carson Street.
e. To be demolished to provide new parking area.
f. New modular be located adjacent to L-2.

APPENDIX D
SPACE USE DISTRIBUTION FOR PARKING CODE ANALYSIS
Harbor-UCLA Medical Center S/E Replacement Project

Location	Department	Gross SF [a]
RESEARCH USE		
Unit II -- Research Uses		
B-1	LA Bio Med (Surgery)	9,933
B-1 South	LA Bio Med (Medicine)	1,851
B-4 Annex	LA Bio Med (Psychiatry)	418
C-1	LA Bio Med (Medicine)	7,707
C-1 Annex	LA Bio Med (Medicine)	5,179
C-1 Trailer	LA Bio Med (Medicine)	1,183
C-2	LA Bio Med (Medicine)	4,430
C-2 Trailer	LA Bio Med (Medicine)	604
C-3	LA Bio Med (Pediatrics)	4,365
D-1	LA Bio Med (Animal Care)	7,751
D-3	LA Bio Med (Ob/Gyn)	5,339
D-7	LA Bio Med (Pathology)	n/a [b]
D-8	LA Bio Med (Pathology)	n/a [b]
On D-7 and D-8 site	(Replacement Modular complex)	11,000 [c]
E-1	LA Bio Med (Animal Care)	1,800
E-1 Annex	LA Bio Med (Animal Care)	1,862
E-2	LA Bio Med (Animal Care)	3,913
E-3	LA Bio Med (Medicine, Urology)	8,780
E-3 Trailer	LA Bio Med (Urology)	1,444
E-4	LA Bio Med (Peds, Medical Genetics)	10,051
E-4 Trailer E. Side	LA Bio Med (Peds, Medical Genetics)	512
E-4 Trailer W. Side	LA Bio Med (Pediatrics)	512
E-5	LA Bio Med (Medicine)	4,084
E-6	LA Bio Med (Pediatrics)	9,043
E-6 Annex	LA Bio Med (Pediatrics)	1,452
E-6 Annex (Lab)	LA Bio Med (Immunology)	864
E-6 Trailer	LA Bio Med (Pediatrics)	1,445
F-0 Cage Washer	LA Bio Med (Animal Care)	2,250
F-1	LA Bio Med (Animal Care)	7,577
F-1 Annex	LA Bio Med (Animal Care)	1,121
F-2	LA Bio Med (Animal Care)	1,965
F-5	LA Bio Med (Psychiatry)	3,918
F-5 Trailer	LA Bio Med (Psychiatry)	758
F-6	LA Bio Med (Surgery)	4,242
F-7	LA Bio Med (Surgery)	3,877
F-9	LA Bio Med (Medicine, Cardiology)	3,984
F-9 Trailer (Annex)	LA Bio Med (Medicine)	1,200
J-2 Trailer	Bio. Med. Sciences/UC Riverside	1,464
J-4	LA Bio Med (Pediatrics)	4,656
L-5	LA Bio Med (Obstetrics/Gynecology)	2,910
N-7	LA Bio Med (Public Relations/Comm.)	1,500
N-12	LA Bio Med (Personnel)	1,440
N-14	LA Bio Med (Administration)	14,181
N-16	LA Bio Med (Medicine)	1,183
N-17	Nursing Research/Snack Bar	2,086
N-21	LA Bio Med (IBD)	2,160
N-33	LA Bio Med (Obstetrics/Gynecology)	5,520
RB-1	LA Bio Med (Pediatrics)	20,000
RB-2	LA Bio Med (Cardiology)	31,564
RB-2 Annex	LA Bio Med (Cardiology)	5,400
RB-3	LA Bio Med	23,134
Subtotal Unit II Research (Existing)		253,612
Total Research Use (Existing)		253,612

Notes:
a. Source: County of Los Angeles Department of Health Services, 1/17/02; reconfirmed and updated by Department of Public Works in January 2005 and April 2005.
b. To be demolished as part of project.
c. Replacement modular complex at D7-D8 location.

APPENDIX E

MUTCD SIGNAL WARRANT ANALYSIS WORKSHEETS
FOR THE INTERSECTION OF CARSON STREET & BERENDO AVENUE

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street: Carson Street
Minor Street: Berendo Avenue
Scenario: Cumulative Plus Project

SUMMARY OF RESULTS

Warrant	MUTCD Warrant Number	Caltrans Warrant Number	Requested for Analysis?	Volumes Satisfy Warrant?	Applicable Time Period
Eight Hour Vehicular Volume	1				
Minimum Vehicular Volume	1A	1	YES	NO	8th Highest Hour
Interruption of Continuous Traffic	1B	2	YES	YES	8th Highest Hour
80% Combination	1C	8	YES	NO	8th Highest Hour
Four Hour Volume	2	9	YES	YES	4th Highest Hour
Peak Hour Volume	3	11	YES	YES	Peak Hour
Estimated Average Daily Traffic	n/a	n/a			
Minimum Vehicular Volume			NO	n/a	Daily
Interruption of Continuous Traffic			NO	n/a	Daily
80% Combination			NO	n/a	Daily

TRAFFIC SIGNAL WARRANTS
EIGHT-HOUR VEHICULAR VOLUME (MUTCD Warrant 1, Caltrans Warrants 1, 2 & 8)

Major Street: Carson Street
Minor Street: Berendo Avenue
Scenario: Cumulative Plus Project
Urban/Rural: u (U=urban, R=rural or high speed [c])

MINIMUM VEHICULAR VOLUME
(MUTCD Condition A, Caltrans Warrant 1)

Number of Lanes on Each Approach	
Major Street:	2
Minor Street:	1
Vehicles Per Hour (8th Highest Hour)	
Major Street (Approach 1):	1,035
Major Street (Approach 2):	917
Major Street Left Turn (see note [d]):	0
Minor Street (Higher Volume App.):	94
MINIMUM VEHICULAR VOLUME SATISFIED?	NO

Minimum Requirements

Number of Lanes for Moving Traffic on Each Approach		Vehicles Per Hour (eighth highest hour) on Major Street (Total of Both Approaches)			Vehicles Per Hour (eighth highest hour) on Higher-Volume Minor Street Approach (1 Direction Only)		
Major Street	Minor Street	100% [a]	80% [b]	70% [c]	100% [a]	80% [b]	70% [c]
1	1	500	400	350	150	120	105
>=2	1	600	480	420	150	120	105
>=2	>=2	600	480	420	200	160	140
1	>=2	500	400	350	200	160	140
Minimum Required		600	480	#N/A	150	120	#N/A
Test Amount		1,952	1,952	#N/A	94	94	#N/A

INTERRUPTION OF CONTINUOUS TRAFFIC
(MUTCD Condition B, Caltrans Warrant 2)

Number of Lanes on Each Approach	
Major Street:	2
Minor Street:	1
Vehicles Per Hour (8th Highest Hour)	
Major Street (Approach 1):	1,035
Major Street (Approach 2):	917
Major Street Left Turn (see note [d]):	0
Minor Street (Higher Volume App.):	94
INTERRUPT. OF CONT. TRAFFIC SATISFIED?	YES

Minimum Requirements

Number of Lanes for Moving Traffic on Each Approach		Vehicles Per Hour (eighth highest hour) on Major Street (Total of Both Approaches)			Vehicles Per Hour (eighth highest hour) on Higher-Volume Minor Street Approach (1 Direction Only)		
Major Street	Minor Street	100% [a]	80% [b]	70% [c]	100% [a]	80% [b]	70% [c]
1	1	750	600	525	75	60	53
>=2	1	900	720	630	75	60	53
>=2	>=2	900	720	630	100	80	70
1	>=2	750	600	525	100	80	70
Minimum Required		900	720	#N/A	75	60	#N/A
Test Amount		1,952	1,952	#N/A	94	94	#N/A

80% COMBINATION (Caltrans Warrant 8)

No one warrant satisfied but following warrants fulfilled 80% or more:

Condition A 80% Fulfilled?	NO
Condition B 80% Fulfilled?	YES
80% COMBINATION SATISFIED?	NO

Minimum Requirements:
Conditions A and B Both 80% Fulfilled

Notes:

a. Basic minimum hourly volume (eighth highest hour).
b. Used for combination of Conditions A and B.
c. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
d. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, *Manual on Uniform Traffic Control Devices, Millennium Edition*, 2001; and Caltrans, *Traffic Manual*, 2002.

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street: Carson Street
Minor Street: Berendo Avenue
Scenario: Cumulative Plus Project
Urban/Rural: u (U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach			
Major Street:	2		
Minor Street:	1		
Vehicles Per Hour (4th Highest Hour)			
Major Street (Approach 1):	1,466	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	1,300	Minor Street (Higher Volume App.):	133
Major Street Total (Both Approaches):	2,766	Minor Street Total:	133
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	390	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	80

FOUR HOUR VOLUME WARRANT SATISFIED? **YES**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach			
Major Street:	2		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	1,725	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	1,529	Minor Street (Higher Volume App.):	157
Major Street Total (Both Approaches):	3,254	Minor Street Total:	157
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	510	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	100

PEAK HOUR VOLUME WARRANT SATISFIED? **YES**

Notes:

a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-1.
d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-3.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

Michael Brandman Associates

ENVIRONMENTAL SERVICES • PLANNING • NATURAL RESOURCES MANAGEMENT

August 24, 2005

Ryan Wantz
Los Angeles County Department of Public Works Department
900 S. Fremont Avenue, 5th Floor
Alhambra, CA 91803-1331

Subject: Responses to Comments on the Mitigated Negative Declaration (State Clearinghouse No. 2005061103) for the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement Project

Dear Mr. Wantz:

The Mitigated Negative Declaration (MND) for the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement project was circulated for public review and comment beginning on June 20, 2005 and ending on July 27, 2005.

There were two comment letters that were received by the Los Angeles County Public Works Department regarding the MND. As required by Section 15074 of the California Environmental Quality Act (CEQA) Guidelines, the lead agency must consider comments received during the public review process. Attachment A provides responses to comments provided on the MND.

Subsequent to the circulation of the MND for public review and comment, the County of Los Angeles Public Works Department modified the proposed project. Following is a discussion of the proposed modification and the potential environmental effects associated with the modification.

PROPOSED PROJECT MODIFICATION

The Los Angeles County Public Works Department is proposing to include a mobile Decontamination Shower Trailer to be located south of the proposed new permanent helistop on the project site. The purpose of the decontamination trailer is to provide high-volume patient decontamination capacity in the event of a hazardous materials or chemical/radiological terrorism incident. The unit is to be capable of decontaminating 50 patients per hour. It is designed as a self-contained system with only cold water and electrical hook-up requirements.

The area proposed for the mobile trailer will be provided with water and power hook-ups, adequate site lighting, and space for patient queuing. The dedication of this area will remove 24 parking spaces that were part of the proposed reconfiguration of the onsite parking.

The Decontamination Shower Trailer is a mobile unit, which will be moved to other locations if its use is required. Therefore, no permanent connections will be made to the unit. As the unit will only be used in the case of an incident, there is no dedicated personnel or staff required for it.

ENVIRONMENTAL EVALUATION

The primary environmental concern regarding the proposed trailer is the removal of proposed parking. As discussed on page 86 in the MND, a total of 2,693 parking spaces are required for the existing and proposed uses on the campus in accordance with the Los Angeles County parking code. The proposed reconfiguration of the parking lot as discussed in the MND identified the provision of 2,776 future spaces for existing and proposed uses on the campus. With the removal of 24 parking spaces from the placement of the proposed Decontamination Shower trailer, there would be 2,752 parking spaces provided for campus uses. This would result in an exceedance of the parking code by 59 spaces. Therefore, with the implementation of the proposed trailer, no significant impacts on parking would occur.

As identified above, the proposed trailer would be used in emergency situations, and the trailer would not include long-term personnel or staff. Therefore, the environmental evaluation and findings of traffic, air quality, noise, public services, or utilities within the MND would not change. Since the proposed location of the trailer would be within an area that was assumed to be graded, the environmental impacts associated with grading such as biological resources, hazards and hazardous materials, mineral resources, agricultural resources, cultural resources, hydrology/water quality, and geology/soils would be the same as addressed in the MND.

The remaining environmental issues that were addressed in the MND included aesthetics, land use/planning, population/housing, and recreation. The evaluation in the MND concluded that the proposed project would not result in an impact related to these issues. With the addition of the proposed trailer, the environmental evaluation provided in the MND would not change and the conclusion would be that there still would be no impact.

In summary, the addition of the proposed Decontamination Shower trailer to the proposed project would not alter the environmental findings provided in the MND.

Sincerely,

Michael E. Houlihan

Michael E. Houlihan, AICP
Manager of Environmental Services
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602

Attachment
MH:sr
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ATTACHMENT A
RESPONSES TO COMMENTS ON THE MITIGATED NEGATIVE DECLARATION FOR THE HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

The two comment letters that were received on the MND were provided by the Governor's Office of Planning and Research, State Clearinghouse and Planning Unit and the California Department of Transportation, District 7. Neither letter raised any new significant environmental issues associated with the proposed project that have not already been addressed in the MND.

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Sean Walsh
Director

July 20, 2005

Ryan Wantz
Los Angeles County Department of Public Works
900 S. Fremont Avenue, 5th Floor
Alhambra, CA 91803-1331

Subject: Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement
SCH#: 2005061103

Dear Ryan Wantz:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on July 19, 2005, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Terry Roberts, Director, State Clearinghouse, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit

The comment received from the State Clearinghouse is an acknowledgement that the County has complied with the State Clearinghouse review requirements for the MND.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 MAIN STREET, Suite 100
LOS ANGELES, CA 90012-3606
PHONE (213) 897-3747
FAX (213) 897-1337
TTY (213) 897-4937

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June 27, 2005

IGR/CEQA cs/050645 – NEG DEC
County of Los Angeles
Harbor UCLA Medical Center Surgery/Emergency
Facility Replacement
Carson St./Vermont Ave.
Vic. LA-110-7.01; SCH # 2005061103

Mr. Ryan Wantz
County of Los Angeles
Department of Public Works
900 S. FremontAve.700 N. Alameda St., 5th Floor
Alhambra, California 91803-1331

Dear Mr. Wantz:

Thank you for including the California Department of Transportation in the environmental review process for the above-mentioned project. Based on the information received, we have the following comments:

We recommend that construction related truck trips on State highways be limited to off-peak commute periods. Transport of over-size or over-weight vehicles on State highways will need a Caltrans Transportation Permit.

The contractor should agree to avoid excessive or poorly timed truck platooning (caravans of trucks) to minimize transportation related operational conflicts, minimize air quality impacts, and maximize safety concerns.

If you have any questions regarding our comments, please refer to our IGR/CEQA Record number cs/050645 and do not hesitate to contact me at (213) 897-3747.

Sincerely,

Original Signed By Carl Shiigi

Cheryl J. Powell
IGR/CEQA Program Manager

cc: Scott Morgan, State Clearinghouse

"Caltrans improves mobility across California"

A-5

Cheryl J. Powell, IGR/CEQA Program Manager, California Department of Transportation, District 7

The comments received by Caltrans was a recommendation that construction-related truck trips on State highways be limited to off-peak commute periods as well as recommending that the contractor avoid excessive or poorly time truck platooning. These comments relate to the reduction of traffic congestion, air emissions, and safety concerns.

As stated on page 80 in the MND, construction traffic typically occurs earlier than the "standard" peak hours for commuter traffic not associated with the Harbor-UCLA campus. Therefore, the traffic volume and traffic safety impacts associated with this project's construction phases would be less than significant. The air emissions associated with construction activities were evaluated in Item 3 in Section III of the MND. The projected air emissions that were evaluated were from worker vehicles as well as construction equipment, including heavy trucks. Except for oxides of nitrogen (NOx) and reactive organic gases (ROG), all of the project emissions of criteria pollutants would be less than the South Coast Air Quality Management District's construction thresholds. NOx would exceed the threshold and mitigation measures including those to reduce the aggregate number of operating hours for all pieces of construction equipment during the grading phase and the building construction phase were recommended to reduce potential NOx impacts to less than significant. ROG would exceed the threshold and mitigation measures to use primers and top coats that contain less volatile organic compounds is recommended.

An additional comment was the transport of over-size or over-weight vehicles on State highways. The County understands that contractors that have over-size or over-weight vehicles on the State highway system will need a Caltrans Transportation Permit.

Michael Brandman Associates

ENVIRONMENTAL SERVICES • PLANNING • NATURAL RESOURCES MANAGEMENT

February 24, 2006

Bijan Saless
Sigma Engineering
2101 Auto Center Drive, Suite 150
Oxnard, CA 93036

SUBJECT: Clarifications to the Mitigated Negative Declaration for the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement

Dear Mr. Saless:

Michael Brandman Associates (MBA) received comments from the County of Los Angeles staff regarding clarifications to the Mitigated Negative Declaration for the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement project. Attachment A includes revisions to clarify the narrative discussions provided in the Mitigated Negative Declaration.

Based on a review of the clarifications provided in Attachment A, the environmental findings and conclusions in the Mitigated Negative Declaration have not been altered.

Sincerely,

Michael E. Houlihan

Michael E. Houlihan, AICP
Manager of Environmental Services
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602

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ATTACHMENT A
CLARIFICATIONS TO THE MITIGATED NEGATIVE DECLARATION FOR THE HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY FACILITY REPLACEMENT

Following are revisions to clarify the narrative discussions provided in the Mitigated Negative Declaration for the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement. The specific page, paragraph, and sentence is referenced along with the original text to be modified and the revised text.

The sentence in the second paragraph on page 5 of the MND is revised to read as follows:

Delete: "Obtaing a conditional use permit from the Los Angeles County Department of Regional Planning and approval from the Airport Land Use Commission for the new permanent helistop and temporary helistop will be required."

Add: "Administrative approvals from the Los Angeles County Department of Regional Planning, the Airport Land Use Commission, and from the California Division of Aeronautics for the new permanent helistop and temporary helistop will be required."

The second and third sentences in the fourth paragraph on page 7 are revised to read as follows:

Delete: "This MND is the CEQA documentation LACDWP is processing for the entire project; the Department of Regional Planning will use the MND for a conditional use permit for the proposed permanent and temporary helistop. The Planning Commission will take action on the Conditional Use Permit (CUP)."

Add: "This MND is the CEQA documentation LACDWP is processing for the entire project for the proposed permanent and temporary helistop."

The following is added to the end of page 8 in the MND.

Add: "Los Angeles County Airport Land Use Commission. Proposed construction of the interim and permanent replacement helistops require the review and approval of the Commission. The Commission will review the proposed project for consistency with the Comprehensive Land Use Plan for the Los Angeles County's airports.

Los Angeles County Regional Planning. Construction will require administrative plot plan approval to ensure compliance with planning criteria of the Los Angeles County Code."

The fourth sentence in the third paragraph and the entire fourth paragraph on page 34 in the MND is revised to read as follows:

Delete: "Most people determine an odor to be offensive (objectionable) if it is sensed longer than the duration of a human breath; typically 2 to 5 seconds.

The only potential odors associated with the project are from the application of asphalt and paint during the construction period. These odors, if perceptible, are common in the environment and would be of very limited duration. Therefore, any odor impacts would not be considered as significant."

Add: Most people determine that an offensive (objectionable) odor is one that is not common in the environment. The only potential odors associated with the project are from the application of asphalt and paint during the construction period. These odors, if perceptible, are common in the environment. Since construction odors would be the odors generated by the project, these potential odor impacts would be considered less than significant.

The last sentence in the fourth paragraph on page 66 of the MND is revised to read as follows.

Delete: "Both levels will be examined."

Add: "The annual average CNEL and the average annual CNEL with one nighttime operation noise levels are analyzed in Appendix C and summarized below."

The last sentence in the fifth paragraph on page 66 of the MND is revised to read as follows.

Delete: "Noise events that cause sleep disturbance on a regular basis should be considered as a significant impact."

Add: "Substantial noise events that cause frequent sleep disturbance is considered a significant impact.

The second sentence in the first paragraph on page 72 in the MND is revised to read as follows.

Delete: "In situations such as this were there are relatively few operations (9.5 a month) on average and even fewer during the nighttime hours (2.25 per moth average) the CNEL for a single day can vary greatly."

Add: "In situations such as this where there are relatively few operations (9.5 a month) on average and even fewer during the nighttime hours (2.25 per month average), the CNEL for a single day can vary greatly."

The second sentence in the first paragraph on page 73 is deleted:

Delete: "Some people will be awakened during nighttime events."

The last sentence in the first paragraph on page 73 is revised to read as follows:

Delete: "Due to the low number of nighttime operations (i.e., an average of 2.5 per month), the level of sleep disturbance is not considered significant."

Add: Due to the low number of nighttime operations (i.e., an average of 2.5 per month), sleep disturbance of 2.5 nights per month is not considered frequent; therefore, potential sleep disturbance resulting from the helicopter events is not considered significant.

The second bullet in the third paragraph on page 73 in the MND is revised to read as follows:

Delete: "The nighttime operations (2.5 times per month on average) will not occur on a regular basis."

Add: "The nighttime operations (2.5 times per month on average) will not occur on a frequent basis."

The following is added to the end of the fire department mitigation measure which is the third paragraph on page 77 and the end of the last bullet on page 93 of the MND.

Add: "If so determined, the project shall implement the required resources."

The last sentence in the first paragraph on page 84 is revised to read as follows:

Delete: Therefore, project implementation would not resulting inadequate emergency access."

Add: Therefore, project implementation would not result in inadequate emergency access."

The following is added at the end of the flood control mitigation measure which is the third paragraph on page 90 and at the end of the first bullet on page 93 in the MND.

Add: "The project shall implement specific improvements required by the District."

Mitigation Monitoring Program
Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement
February 24, 2006

Mitigation Measure	Timing	County Department Responsible for Monitoring
AESTHETICS		
The lighting of the proposed temporary and permanent helistops shall be shielded so lighting is directed away from the adjacent residential uses.	Prior to the approval of plans and specifications	Public Works
AIR QUALITY		
Heavy equipment shall be tuned up and maintained in accordance with manufacturer's specifications. Equipment logs demonstrating proper maintenance shall be maintained at the site during construction activities.	Prior to the approval of plans and specifications	Public Works
Heavy equipment used during demolition, site preparation, and grading shall not exceed an aggregate use of 46 hours per day. Heavy equipment use during building construction shall not exceed an aggregate of 80 hours per day. Equipment logs demonstrating daily use shall be maintained at the site during construction activities.	Prior to the approval of plans and specifications	Public Works
Heavy equipment shall not be allowed to remain idling for more than a five-minute duration.	Prior to the approval of plans and specifications	Public Works
Trucks shall not be allowed to remain idling for more than a two-minute duration.	Prior to the approval of plans and specifications	Public Works
Electric power shall be used to the exclusion of gasoline or diesel generators and compressors whenever feasible.	Prior to the approval of plans and specifications	Public Works
Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and, if necessary, a flag-person shall be retained to maintain safety adjacent to existing roadways.	Prior to the approval of plans and specifications	Public Works
All primers shall contain less than 0.85 pound per gallon (102 gram/liter) VOC.	Prior to the approval of plans and specifications	Public Works
All top coats shall contain less than 0.07 pound per gallon (8 grams/liter) VOC.	Prior to the approval of plans and specifications	Public Works

Mitigation Measure	Timing	County Department Responsible for Monitoring
CULTURAL RESOURCES		
Prior to construction, the County of Los Angeles Department of Public Works shall verify that the following measures to protect cultural (archaeological and paleontological) resources are included in the contractor specifications. If evidence of cultural resources is encountered during project grading, all grading and related activity shall cease in the immediate area of the find and then a qualified archaeologist or paleontologist shall be retained to perform the following: • To assess the significance of the resource. • To recover artifacts that are determined and significant shall be offered to a repository with a retrievable system and an educational and research interest in the materials (i.e., Los Angeles County Museum).	Prior to the approval of plans and specifications	Public Works
If human remains of possible Native American origin are encountered during the project, along with the Native American Heritage Commission, the Los Angeles County coroner's office and a qualified archaeologist shall be contacted by the contractor for preservation and protection of the remains per the California Native Commission.	Prior to the approval of plans and specifications	Public Works
GEOLOGY AND SOILS		
During construction, the contractor shall remove loose, disturbed material, uncertified fill, or otherwise unsuitable soils and replace them with properly compacted fill material as required by the approved construction documents.	Prior to the approval of plans and specifications	Engineering
During final design, the County of Los Angeles shall incorporate into the project design the recommendations for construction outlined in the Report of Geotechnical Investigation-Proposed Emergency Department/Surgery Pavilion and Ambulatory Care Facility, prepared by Law/Crandall, Inc. (November 16, 1993).	Prior to the approval of plans and specifications	Engineering
HYDROLOGY AND WATER QUALITY		
The Contractor shall file a Notice of Intent (NOI) to be covered by the California General Permit for New Development under the NPDES Stormwater Discharge Program. The NOI shall be accompanied by an SWPPP and appropriate fees and shall be filed with the State Water Resources Control Board at least 90 days prior to the onset of the site grading.	Prior to the approval of plans and specifications	Public Works
The County shall prepare for approval prior to construction activities, an SWPPP described above which shall include the siting and maintenance of temporary sediment collection basins. The use of filter fences, filter dikes, and other construction site best management practices (BMPs) near stormwater system outlets shall be identified.	Prior to the approval of plans and specifications	Public Works

Mitigation Measure	Timing	County Department Responsible for Monitoring
PUBLIC SERVICES		
Prior to the approval of plans and specifications, the Los Angeles County Fire Department shall determine if additional manpower and equipment is required to provide adequate fire services to the Harbor-UCLA Medical Center campus. If so determined, the project shall implement the required resources.	Prior to the approval of plans and specifications	Fire
UTILITIES AND SERVICE SYSTEMS		
Prior to final design, the County of Los Angeles Public Works Department shall review the proposed design in cooperation with the Los Angeles County Flood Control District to ensure that proposed improvements are compatible with onsite flood control facilities. The project shall implement specific improvements required by the District.	Prior to the approval of plans and specifications	Public Works